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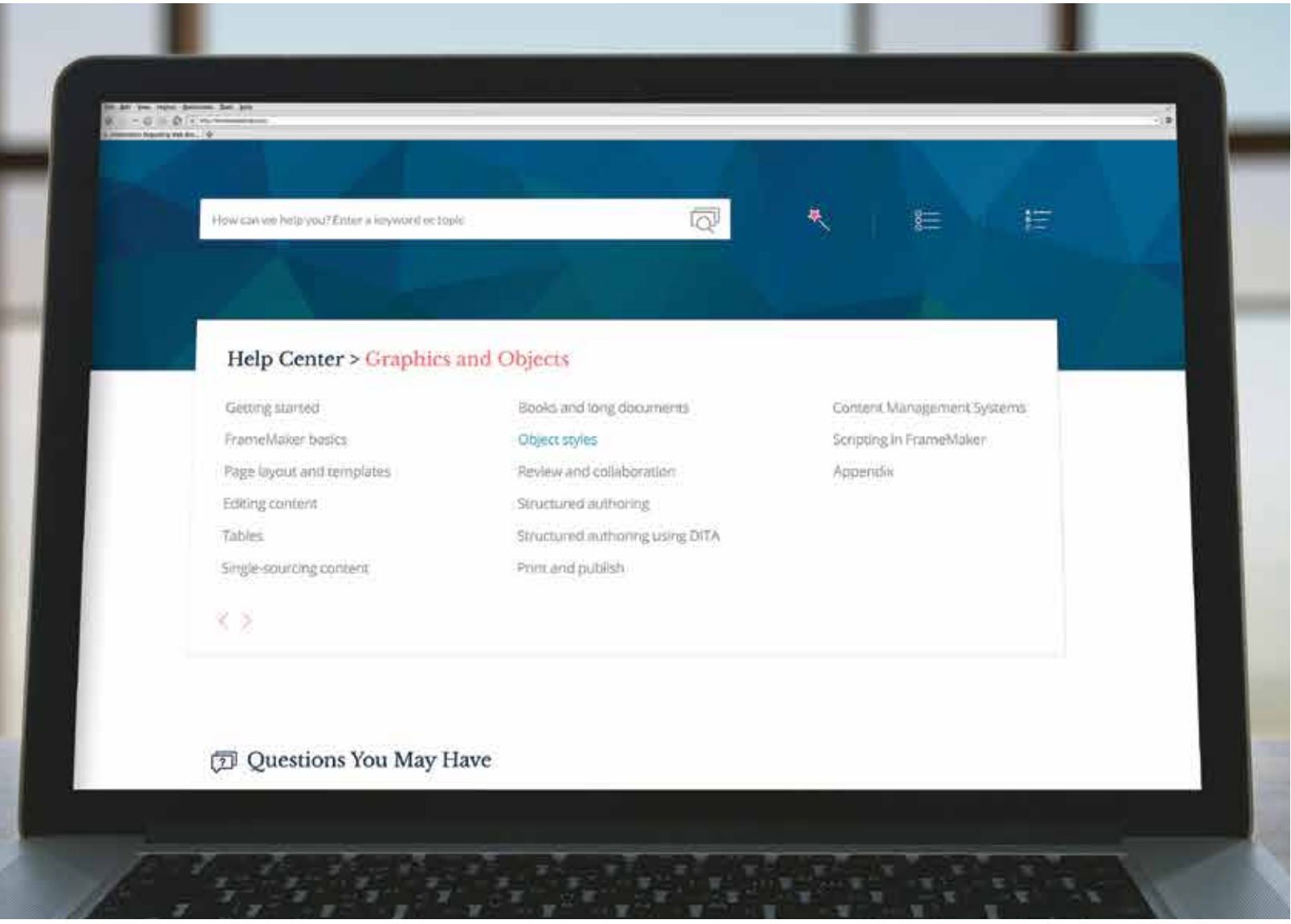

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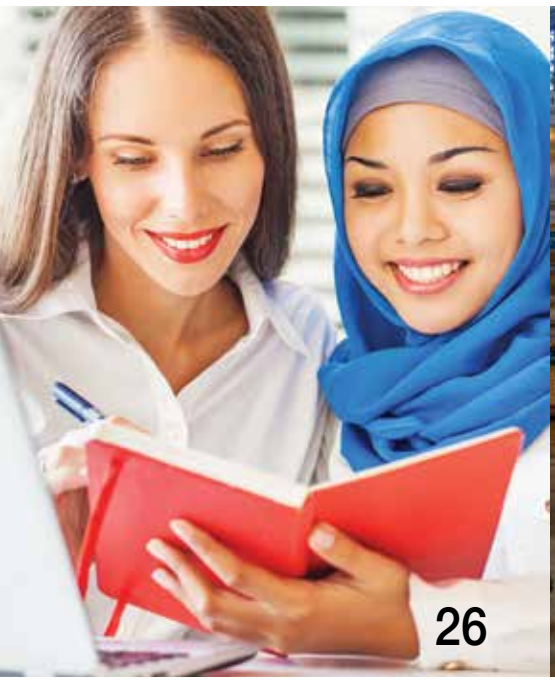

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A Note from the Editor

THIS ISSUE OF *INTERCOM* provides several articles to help you improve your career and expand your professional development, no matter whether you are a technical writer, a tech comm manager, or an academic.

Robert Harrison's article "Un-Heavy Reading" discusses how to add value to engineering reports. He offers numerous suggestions for improving these reports, including writing the executive summary to a non-technical audience and considering readability and structure. If your job is helping engineers write reports, this article can help you market the benefits of good writing to engineers.

Aubrey Collins has provided a brief history of collaboration from the 1970s to the 2010s in her article "From Satellites to Slack." She gives several important resources and suggestions for teams to consider when working collaboratively. If you were a technical communicator using collaborative tools during any of these decades, you will remember many of these chief turning points in the field.

Managers looking to hire the right technical writer for their team should read Joshua Durkin and Shelley Fitze's article "Missing Links." They provide six missing links in hiring from their forty years of combined experience hiring and training writers.

Kate Schneider, a former MadCap employee, writes about authoring tools and basic concepts that are always important to review on the job, like project setup, project structure, and single sourcing.

Two students from the University of Tennessee interviewed Dr. Kirk St.Amant in the article "Seeing Worldviews and You-Views." The article provides an overview of Kirk's research and interests and focuses on new challenges in global communication.

Those teaching in international classrooms will want to read Tiffany Price's article "Debunking an Assimilationist Approach." She recommends that instructors adjust their pedagogies to better engage international students. Also for instructors, this issue includes an Academic Conversation column titled "Changing the Game" by Thomas Barker and guest columnist Christina Grant on using multimodal assignments to motivate students.

Meet member Maliha Balala in "Creating Reflective Spaces for Your Writing," who shares how she spends her off hours using reflection, which helps her to create a mindful approach to the challenges of technical communication.

I hope readers enjoy the content of this January 2017 issue. Visit *www.stc.org/intercom/editorial-calendar* to see the upcoming themes for 2017 and to submit your own articles for consideration!

—Liz Pohland
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intercom

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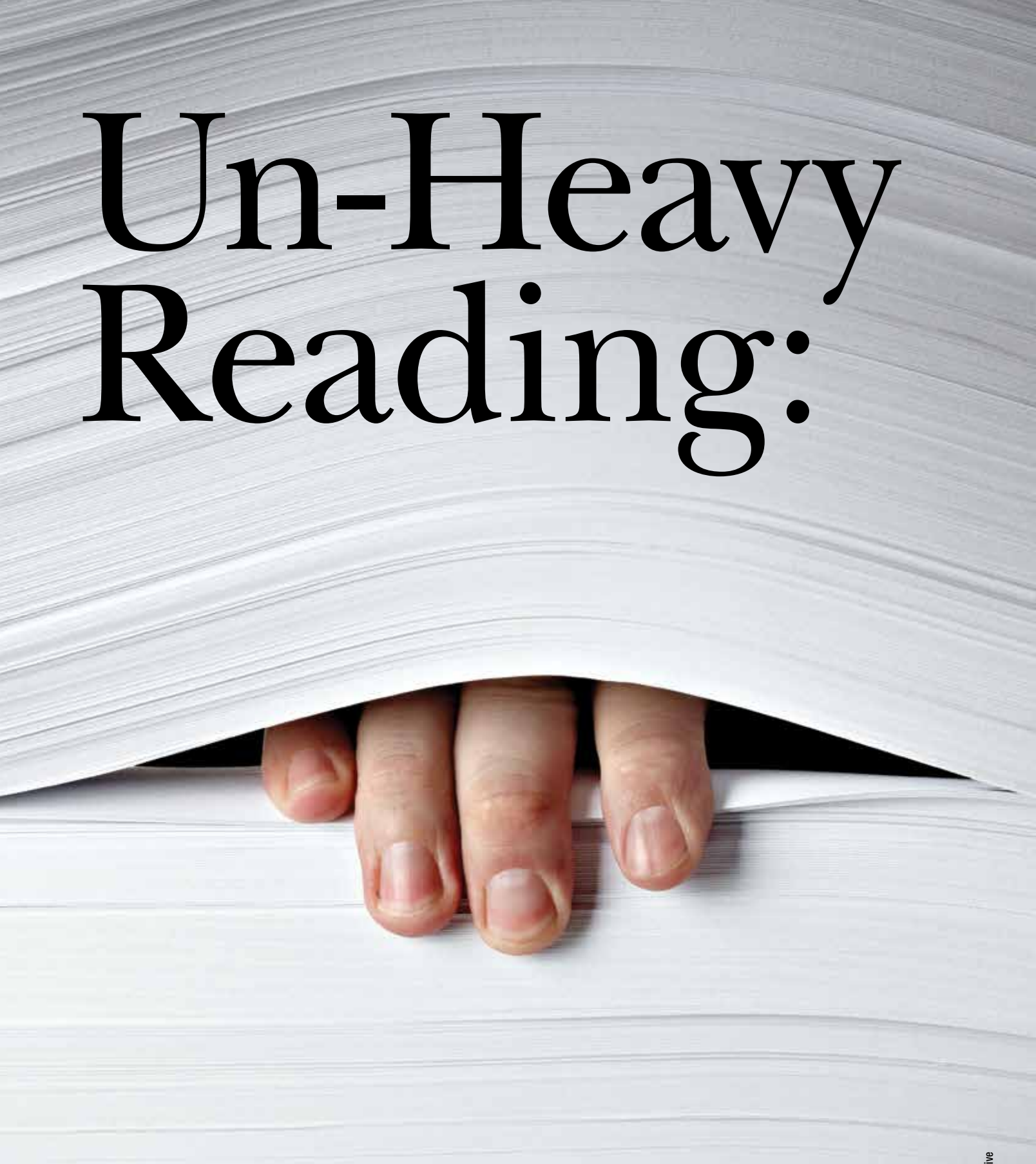

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How to Add Value to Engineering Reports

By ROBERT P. HARRISON | *STC Member*

Is It Possible to Write a Good Engineering Report?

Engineers produce a spectacular volume of technical writing. A single project can generate hundreds or even thousands of pages of text. According to Maja Rehou, professional engineers spend at least 25% of their time communicating in writing with colleagues and clients. Because engineers work to tight schedules and are often overloaded, they represent a great business opportunity for outside technical writers. But first we must understand what engineers need, and what they lack.

Everyone knows that science makes for heavy reading. Engineering is applied science, and can be equally difficult to communicate—abstract concepts, detailed diagrams, complicated equations, specialized vocabulary, chemical symbols, plus a heavy dose of mathematics. Engineering also has one additional challenge: the audience. A successful and heralded scientific paper may only be read by other scientists. An engineering report, on the other hand, may need to convince business or government leaders to support some kind of project; in other words, to spend money, goodwill, or political capital. Often these decision-makers will not have a technical background.

An engineering document could be a memo, a letter, a drawing, minutes of meeting, a trip report, a contract, a service agreement, a specification, a health and safety assessment, or a design basis. In this article, I will consider a document that is most likely to have audiences from outside the engineering profession: the large project report.

A project report must be understandable—and even persuasive—not just to other engineers, but also to managers, accountants, government officials, environmental specialists, journalists, lawyers, and sometimes the general public. Engineers and scientists will demand all the technical details, of course, because they want to make up their own minds about the findings. Many of these other readers, however, will NOT want the technical details. These two groups have non-overlapping requirements. This "Readership Paradox" is shown in Table 1.

Engineering texts commonly fall into another trap: weak logic disguised as "techspeak." Again, the ultimate purpose of a project report is to persuade somebody in authority to give their approval. For the report to be persuasive, the logic must be airtight, otherwise the reader will have lingering doubts. Engineers excel at logic. Unfortunately, they also excel at math, jargon and acronyms, and encasing their texts in a heavy techno-blanket that can camouflage weak arguments (or even good ones). This pitfall will be discussed in the latter part of this article. First, though, let's tackle the Readership Paradox.

Table 1. The Readership Paradox: Non-Overlapping Requirements

Non-Technical Readers	Technical Reader
Bankers, Lawyers, Accountants, Economists, MBAs, Managers, Entrepreneurs, Government Officials, Journalists	Engineers, Scientists, Mathematicians, IT Experts, Statisticians, Technicians, Researchers, Academics
High-school level in science Many will have advanced degrees in non-technical domains	Advanced degrees in Science, Mathematics, and Engineering Dislike "dumbed down" content
Respond best to narrative text "Do I find this story compelling?"	Respond best to numbers and formulas "Do I agree with these conclusions?"
Prefer the concise version—the BIG picture	Prefer the complete version—the FULL picture
Only interested in the implications	Chiefly interested in how it was done

What Is the Report Trying to Sell?

Every engineering report is trying to sell something. It could be to:

- Seek approval or funding for a good project
- Kill a bad project
- Justify the budget already spent
- Show compliance with a regulation, norm, or standard

Step 1: Write the Executive Summary for Non-Technical Readers

The solution to the Readership Paradox is *divide et impera*. You divide the report into two parts, each aimed at a different readership. This is hardly a new idea. The concept of an Executive Summary has been around for decades, but it is rarely used properly.

Oftentimes the Executive Summary is just a string of sentences cut-and-pasted from the main text. It is written in exactly the same style as the main report, totally unappealing to executives, thereby wasting a superb opportunity to make all that hard work shine.

My preferred split is shown in Table 2:

- The main body of the report is written at the comprehension level of someone with a Bachelor's or Master's degree in Engineering.
- The Executive Summary is aimed squarely at an 11th-grade comprehension level: shorter sentences, simpler word choice, fewer raw numbers. The logic and overall story are intact, but it is written using different words.

Common sense must prevail. If the CEO and most of the board members approving the project have degrees in engineering, then the strategy might be different. Some leaders have a very deep knowledge of science (for example, the Chancellor of Germany, Angela Merkel, has a PhD in Physics).

Brownen Parsons has described communication as "finding a way to organize the complex messages your brain has stored, in order to convey them to a person whose brain resides in a very different complex world to yours." In a nutshell, this is the aim of the Executive Summary. But before we write it, we must first define the message.

Table 2. The Solution: The Perfect Engineering Report

Body of Report	Executive Summary
Written to: Bachelor's/Master's level	Written to: Grade 11 level
Engineering vocabulary ▸ Jargon as required ▸ Table of acronyms	Simpler word choice ▸ No jargon ▸ Only everyday acronyms like TV and WiFi
Elaborate, detailed sentences	Simple sentences that pack a punch ▸ Otherwise they will ask, "Why am I reading this?"
Lots of math ▸ Raw data ▸ Extensive tables ▸ Text loaded with equations	Bare minimum of math ▸ No raw numbers ▸ No large tables ▸ Numerical results on graphs
Extremely detailed throughout ▸ Including a full-blown "Conclusions & Recommendations" section if desired	Extreme clarity throughout ▸ Only enough science to put the business argument into context

You Can Be Infinitely Concise

Some clients will request that an Executive Summary be limited to one page, including figures and tables. This may sound unreasonable, given the complexity of engineering projects, until you realize a universal truth: You can be infinitely concise.

No matter how complicated an engineering project may be, it cannot possibly be more complicated than the entire planet. Suppose you were only permitted a *single character* to explain the Earth to a space alien. You might choose a capital O:

1 character: "O"

Now suppose you were only permitted a *single word*:

1 word: "Planet."

Now suppose you were permitted to add words:

2 words: "Small planet."
3 words: "Small rocky planet."
5 words: "Small rocky planet with water."
10 words: "Small rocky planet with water, orbiting a medium-sized star."

You get the idea. If you extended this to millions of words, you would end up with Wikipedia.

Even Engineers Need an Elevator Speech

Nobody alive can write a good 200-page report without first having an elevator speech. Like Einstein said, you must be able to explain your work to your grandmother. A maximum of five ultra-simple concepts ... that's how people's brains work. More than five, and you lose them. Three is better.

Even better is just one idea. Steven Spielberg is known to only make movies that can be summarized in a single sentence ("Giant shark terrorizes New England resort town.")

What is the short message that you'd like your contacts to go back and tell *their* boss? Make sure your contacts hear, believe, and can repeat this message. You want to provide your readers with something to tell the other people who did not see your report.

A Good Trick: Do the Slideshow First

As technical writers, one service that we can offer is to simultaneously produce a slideshow version of the report. Creating a slideshow is a superb distillation-of-message exercise that can only improve the overall report. In any case, engineers are almost always obliged to present their recommendations in person, so a slideshow will be needed sooner or later. Meanwhile, it provides a perfect way to hammer out the elevator speech. For instance:

1. Do the slideshow *first*. Listen to the engineers and read whatever they send you, and conduct an extreme distillation of the findings. Do not worry about the length. It can be two slides. This is a rough draft for discussion only.
2. Engineers *love* fixing things. They will probably respond with strong and decisive feedback to your first attempt. Do not be dismayed if they appear critical. This is exactly what you want. Engineers are critical.
3. Incorporate their comments and polish up the slideshow to the required length, with lots of visual appeal. Submit it again to the engineering team for further comments.

4. Repeat Step 2 as many times as required. Engineers are fond of working this way—iteration by iteration.
5. Transfer the words of the presentation into a text file as seed material for the Executive Summary, which gets written next.
6. Submit the Executive Summary to the engineering team for comments.
7. Only then, proceed with giving the main report a makeover.

Step 2: Make the Report More Logical for Engineers and Scientists

At first glance, a badly written report can look quite reasonable. It has sentences and paragraphs, various headings, maybe some nice tables and figures. The spelling and grammar might even be flawless. But when you try to read it, your brain recoils in horror, even if you are an expert in the field. That is because the underlying logic is flawed.

The flaw could be major, like a fallacious argument spread over dozens of pages. Or it could be minor, like the illogical placement of old and new information within a single sentence. This issue was masterfully addressed by Gopen and Swan in *The Science of Scientific Writing*—recommended reading for anyone wishing to work on engineering documents.

Poor Logic Weakens the Argument

Just as the elevator speech captures the main message in words, we could also imagine an "elevator syllogism" that captures the main logic (in case you're ever in an elevator with Sherlock Holmes). Here is a simple example:

> If A is True, then B is True.
> If, and only if, B is False, then C is False.
> If C is True, then D is False.
> A is indeed True.
>
> _____
> CONCLUSION: Then D must be False.

Of course, such a thing would never appear in a real report. The argument might be written:

> "Given the strong evidence for effective mercury removal using the NEWEXCITING® Process, as evidenced by the LASERMOONBEAM 9000® laboratory results as well as six months of *in situ* monitoring, the engineering team recommends not going forward with the OLDBORING® test trials that were originally planned for Q1 2018."

No matter how complex, an engineering text *must* contain a logical skeleton of the "If A then B" variety. Otherwise it is not engineering, it is science fiction. Never take valid logic for granted. For instance, how many people would intuitively accept the following syllogism?

How to Write a Great Executive Summary

The Executive Summary is the engineer's chance to shine, but only if it is appealing to executives. Simply cutting and pasting sentences from the main report will not cut it. Here are some tips:

- The best Executive Summary might not contain a single sentence in common with the main report. Your goal is to *distill* the content of the main report, not just replicate it. If necessary, use totally a different vocabulary.
- Beware of positive bias. Even though it is a summary, this is still an engineering report and it must remain objective.
- Write every sentence as though you were explaining the project to a friend or relative who is smart and worldly, but did not study science or engineering.
- Use action verbs which conjure up strong mental images, instead of boring verbs like "is" or "has."
- Passive sentences that begin "It can be seen that" or "It was determined" sound weak and noncommittal. If possible, use "We concluded." Some engineers dislike first-person pronouns, in which case you can write, "The project team concluded."
- Ask the company lawyer if the text requires a statement about liability and legal responsibility. Many reports begin with such a statement.
- Provide a few comparisons with everyday life, to give the reader a sense of size. A classic example is stating a volume of liquid in terms of Olympic swimming pools. Use your imagination: is the mine site larger or smaller than all the runways at O'Hare airport? How many nano-robots would fit inside a green pea?
- Numbers inserted into sentences are hard to read. Tables are better, but graphs are best. This is an *executive* summary, remember? Make it visual.
- If you must include numbers in sentences, use round numbers. Rather than saying 7,984 tonnes per year, for example, say 8,000 tonnes. This is permitted—you are *summarizing* after all. Anyway, if this tonnage comes up later in an important board meeting, people will more readily remember 8,000 than an odd number like 7,984.
- It's OK if the target audience doesn't understand all the details. They hired an engineering firm precisely because engineers know more.

Almost all engineering reports include a cost analysis, usually in the form of a table. For the Executive Summary, why not create a new graph that will have direct appeal to business or government people? For example, for a small extra effort you could generate a sensitivity plot showing the effect of final selling price on overall profit. This simple graph puts the entire project into context.

If A is True, then B is True.
Guess what, B *is* True.

_____
CONCLUSION: A must also have been True!

This bit of folksy wisdom *sounds* right, but it is a fallacious argument known as "Affirming the Consequent" (see Beardsley). We never said that *only* A is capable of making B true. Some even more subtle fallacies are neglecting key variables, cherry-picking your data, and, my own favorite, mixing up correlation with cause-and-effect. The goal here is not to delve into the world of writing and logic, for which there are good references (see Beardsley and Levin). The point is that the "If A the B" skeleton must be decipherable from the text. Nobody—not even engineers and scientists—can verify a chain of reasoning that is sufficiently cloaked. Peeling back this cloak might require some work.

Bouncing the Karaoke Ball from Sentence to Sentence

No doubt people are clever enough to re-read a sentence, but it's infinitely better if they understand it the first time. We want the reader to bounce from sentence to sentence like the ball on a Karaoke screen … the essence of readability! We do not want Strunk and White's "bewildered reader." Instead of fighting the text, we want the reader to glide effortlessly through it, only noticing the great ideas and persuasive arguments.

A great place to start is Strunk and White's Rule #17: "Omit needless words." Here is the quotation in full: "Vigorous writing is concise. A sentence should contain no unnecessary words, a paragraph no unnecessary sentences, for the same reason that a drawing should have no unnecessary lines and a machine no unnecessary parts." This profound wisdom does not just apply to *Reader's Digest*. It also applies to a thousand-page report about the Large Hadron Collider.

Another good place to start is straightening out the most convoluted sentences. It is easy to lose people with tortuosity, like Wayne Gretzky handling a hockey puck. Gretzky did it on purpose (very un-Canadian!), but we often lose people unintentionally. Better to convert a long and winding sentence into several short ones, and put all those numbers in a table, even at the risk of making the overall text longer. This might seem like a violation of Rule 17, but it's not—extra words that render the text understandable are hardly "needless."

The Dreaded Passive Voice

Good writers are taught to avoid the passive voice (see Rehou), but engineers love it. They use it all the time. They also love weak verbs like "is" and "has," instead of action verbs. Rather than scolding them like their high-school English teachers, we must figure out why they do it.

The first reason is that engineers work in teams. By using the passive voice, you avoid making it sound like somebody is taking credit. "The work was done." Period. All individualism is banished.

The second reason is that engineers are quite conservative. Not in the political sense, but in the preserving-the-right-way-to-do-things sense. This is good, of course. It keeps ten-story hospitals from collapsing and chemical plants from blowing up. However, this conservatism makes them wary of flashy writing, hence the tendency toward buttoned-down phrases like "It can be seen that" or "This is also seen when."

The third reason is objectivity. A promoter might prefer an upbeat report that puts a positive spin on her project. Engineers must remain objective. The passive voice sounds more like a pronouncement and less like an opinion. Engineers don't believe in personal opinions. They are convinced that smart people everywhere, given enough time and information, would all arrive at the same inevitable conclusions. This is because engineers and scientists see truth as universal. Human laws change with time, but the laws of physics and chemistry are immutable. They were the same when humans discovered fire, and will still be the same in a million years.

What is to be done? We now introduce the concept of good writing not *for its own sake*, but rather as a *tactic* for

Tricks for Making Engineering Texts More Readable

- Tables, graphs, photos, and inserts should all have captions. A table of contents of the captions should, in itself, tell a story.
- Include a table of abbreviations and acronyms.
- If you refer to your project by an acronym, make sure it does not have another unintended meaning. Two- or three-letter acronyms are hopelessly overused.
- Avoid long strings of nouns when possible, for example, "Monthly Outsource Maintenance Budget Engineering Analysis Input."
- If several words *must* be strung together, use hyphens to remove ambiguity: "Sulphur-containing impurities" means dirty sulphur; "Sulphur-containing impurities" means the sulphur is making something *else* dirty.
- Ensure meticulous consistency in word choice between the text ("cone crusher") and the figure captions ("finely crushed ore"). The reader might leave the report for a while and come back to it, so it is better to eliminate all traces of ambiguity.
- Put large tables into an appendix, to maintain the textual flow.
- Use numbers for citations, such as [49]. This is less cluttered, though possibly less authoritative, than (Jones et al., 1999).
- Avoid wordiness! More words don't bolster the message, they dilute it.

getting their message across. "Better writing leads to a better signal-to-noise ratio." That's the pitch.

Of course this pitch won't win every battle. Some companies impose the passive voice for all major reports, and even conditional verbs, for business or legal reasons (see Gopen 2006). So be prepared for lots of "It was determined" in the final draft, despite your best efforts.

One battle that's not worth fighting is bullets. Engineers love bullets. No engineer has ever said, "I think this report has too many bullets." By its nature engineering requires long lists. Bullets and numbered lists may seem unsightly, but the alternative would be long strings of items in interminable sentences.

Improving the Document Simply by Adding Structure

Structure is an area where a technical writer can really add value, merely by fitting a logical framework around existing content. A classic engineering report structure is as follows:

1. Executive Summary
2. Background Information
3. Description of the Engineering Work and Findings
4. Conclusions and Recommendations

Sections 2 and 3 can be organized various ways, such as:

- Chronological order, i.e., a narrative that tells the story from beginning to end
- Decreasing importance, where the most important topic is covered first, followed by the second most important, etc.
- Cause-and-effect, where the cause is stated first, followed by a description of the the consequences
- Comparison and contrast
- Classification into categories (see Rehou)

Regardless of the format chosen, all engineering reports should be written in a pyramidal style. The Executive Summary states the overall results of the report. Likewise, the first paragraph of each section and subsection gives a short summary of the information that follows. This is crucial, because people are unlikely to read a long engineering report all in one sitting. In fact, many readers will never read the whole thing, going instead to various sections to get the information they need.

For texts longer than 20 pages, I have found it helpful to use recurring diagrams that act as signposts and demarcate the logic. For instance, the recurring diagram could be:

- For construction projects, an aerial photo of the empty site, onto which the various buildings and roads are gradually added. Each new image could be annotated with small comments, in the style of a National Geographic map.
- For industrial processes, a simple flow diagram, with about four or five boxes connected with arrows. The boxes start out grey or dashed. As the text progresses, the boxes would change to solid black, to show which part of the industrial process is being discussed. Secondary arrows could also be added, for instance showing water flows into and out of the process, at an appropriate point in the report.

As a bonus, the final image showing everything is a great visual for the Executive Summary.

Beware: Math Has Its Own Grammar!

Mathematical and scientific symbols have their own rigorous grammar and syntax. To illustrate, here is some arithmetic which *looks* right but is incorrect:

5 x 4 – 6 ÷ 2 = 7

The correct answer is 17. Multiplication and division take precedence over addition and subtraction, so the proper steps are:

5 x 4 – 6 ÷ 2 = (5 x 4) – (6 ÷ 2) = 20 – 3 = 17

Here is another incorrect example:

"The measured power was 75MW."

The convention for all scientific units is to leave a space between the number and the unit. (The number and unit must always be on the same line of text, so use Ctrl+-Shift+Space.) The correct way to write this sentence is:

"The measured power was 75 MW."

This rule applies to ALL units, even temperature:

"The temperature was 64 °F."

It is also permitted to write the unit as a full word, but only in lower case, even if the unit is named for a person:

"The measured power was 75 megawatts."

You cannot mix these. The following are invalid:

"The measured power was 75 Mwatts."
"The measured power was 75 megaW."

There is only one correct unit for each level of time. A second is "s." But a year is not "y" or "yr," it is "a" for *annum*. A day is "d," but it does not stand for day, it stands for *diem*. (These are the same in all languages, so a French speaker wonders why day is not "j.")

The symbol for ton, meaning 2,000 lbs., is "ton." The letter "t" on its own always means a metric tonne (note the extra letters) which is exactly 1,000 kg. A metric tonne is approximately 2,205 lbs., so mixing these up is wrong by over 10%. Beware.

A final incorrect example:

"The concentration was 150 mg/gal."

Here the problem is mixing the metric and imperial systems within the same unit. This is not merely bad form; it is also a scientific no-no, because the two systems are based on different references.

Sad to say, engineers themselves do not always follow these rules. This is *not* down to personal style. These rules

are set by international bodies and are easily available on the Web (see NIST). The same goes for chemical symbols. Proper use of mathematical and scientific nomenclature gives the text an air of authority and credibility. It also ensures consistency. Yet another area where an outside technical writer can provide tremendous value.

Final Thoughts: How to Market Technical Writing Services to Engineers

Engineering is one of the most technical subjects in existence, but writing about it is not necessarily "technical." Many engineering firms use the same old commercial software for doing text, spreadsheets, and presentations as any other business. Nonetheless, engineers represent an excellent business opportunity for technical writers. The question is how best to target this market?

Ultimately, business decisions come down to money. We need to demonstrate the added value of an outside technical writer. Because these are engineers, value is meant literally, as in "What is the monetary gain that justifies your fees?"

I can see three major openings. The first one is **saving them time**, so they can work on other billable projects. It is probably a waste of an engineer's time to proofread prose. Engineers are generally more comfortable with numbers than with words, so they tend to focus on getting the numbers right. This is a good thing, of course. It keeps railway bridges from falling down, and airplane wings from shearing off.

The second opening is **improving the quality of their product**. Most engineers do not create *things*. They create *documents*. Drawings and reports are often their only tangible output. Making these deliverables better, cleaner, more consistent is added value unto itself. The enhanced clarity might even have legal advantages, if it minimizes the chances of their instructions being misconstrued on, say, a skyscraper construction site.

The third opening is more subtle. By helping engineers to define and refine their elevator speeches, and to improve the logic of their arguments, an outside writer is **helping them improve their batting average**. More bids won, more projects approved, which translates into more billable hours and more profit. This is a direct appeal to logic. We're not trying to make engineers fall in love with the written word. We just need them to see that decision-makers such as business and government leaders respond better to good writing. More signal, less noise.

The author wishes to thank the following for some truly excellent Irish-pub discussions about writing for engineers: James Anson, Mark Osterman, Charles Kazaz, Graham Leith, André Noël, John Pivnicki, Christian de Serres, Kristian Waters, Robert Auger, Johann Nell, Andrea De Mori, and Paul Stuart.

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The Technical Writer Who Never Used a Computer

Some readers might be surprised to find an article in *Intercom* that does not discuss software or Web design. Is it possible to be a great technical writer and never use a computer?

Yes. Albert Einstein wrote some of the most technically dense and complex documents in human history, leading to atomic power, lasers, light emitting diodes, computer chips, and countless other innovations. Einstein communicated his subtle and arcane concepts to people he never met, in far off lands, persuading total strangers to accept his bizarre and counterintuitive ideas about time and space. He did this using only pencil and paper. The medium was irrelevant.

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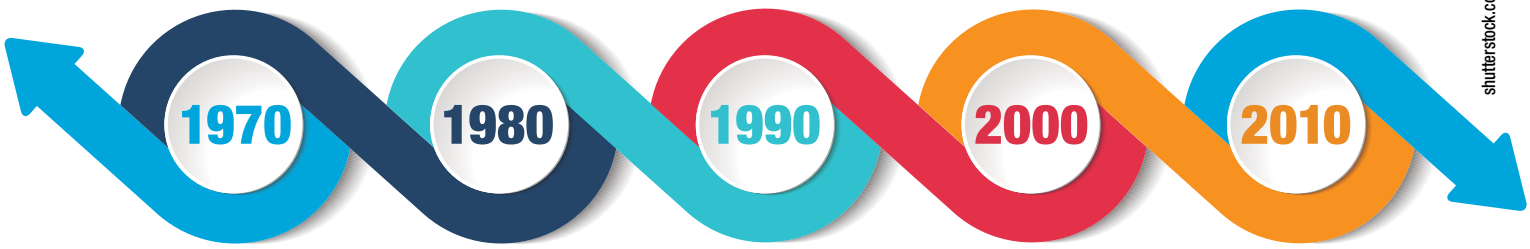
From Satellites to Slack: A History of Collaboration in Business, 1970–2017

By AUBREY COLLINS | *STC Student Member*



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COLLABORATION, COLLABORATION, COLLABORATION. There may be as many articles on collaboration as there are scholars in the world, for over the last half of the twentieth century and the beginnings of the twenty-first, a number of professionals and academics have been interested in the process and value of this type of work. Within this large body of research, a definition is as elusive as the body of work is large. Broadly, it can be defined as working together toward a common goal.

If a room of people were asked for a definition of collaborative writing, each person would likely have a different answer. A group of council members writing a policy is quite different from two professionals co-authoring a paper, but are they not both considered collaborative acts? Due to this lack of standard and because of increasing importance in the lives of professionals, collaboration must be examined and defined in order to determine the benefits of and the best strategies to use. What better place to start than examining some of its recent history?

Over the past forty years, people in the business world have gotten further and further away from the idea of an isolated, single author toward the notion of several authors producing a final written product which offers greater power and productivity. Collaboration is now seen as a necessary tool, and with the proliferation of computers and the interconnectedness brought by the Internet, people themselves are more connected than ever before. Consider the term World Wide Web. People are connected to the Web, and thus in a way nebulously linked to each other. This ability to connect has certainly changed the way we communicate and, therefore, must also be examined when considering the evolution of collaboration.

1970s

As humans, technology is inextricably linked to our history, and during this time computers were still in their early stages. Although smaller than the building-sized computers of the 1950s, they were still large and expensive. Silicon chips that would reduce computers in size were still in the early stages of their development. Apple and Microsoft were just being born. Advanced typewriters were considered word processors. Professionals during this time were a long way from the electronic interconnectedness experienced today, although making strides toward it.

Interestingly, much of the focus presented by writers and researchers from the 1970s focuses on international endeavors. In a world that had seen much political turmoil in the previous half-century, people were looking forward to new ways of communicating and toward building strong alliances as well as internal businesses. That is not to say this type of international collaboration did not exist before the 1970s. On the contrary, the *global* in global market economy had been spreading its reach far before the dealings of the 1970s. In 1776, Adam Smith published *Wealth of Nations*, a theory of economic development that focuses on the integration of different markets over time. Collaboration between markets can even be traced further back to the beginnings of civilization where villages would develop specialties that would elicit trade with other villages' specialties.

One trait that has stayed with these external types of collaboration in business as well as politics is a sense of competition. Businesses in the 1970s were reaching out but also trying to find a competitive advantage, as Hermann Bondi speaks to in his essay on discussing the European Space Research Organization working together to create

satellites. Other literature of the time shows collaboration was decidedly concerned with international affairs and the dynamic types of relationships experienced between countries, especially their competitiveness.

In consideration of more internal affairs in the 1970s, Janis Irving presents a theory in his *Victims of Groupthink*, published in 1972. Groupthink essentially is a psychological phenomenon where a group will strive for consensus and suppress any dissent at all costs, even if that consensus is wrong or detrimental. This phenomenon is seen as disadvantageous to group processes. Furthermore, later studies of group collaboration emphasize that dissonance, argument even, is advantageous to the decision-making process. The idea is that when different ideas have the chance to campaign and compete, theoretically the best will emerge and will be a better solution than if one path had been presented alone as it occurs in Groupthink. Even from this brief early history, one can see that collaboration between humans has been going on for a long time, and if left undefined, it can be interpreted in many incomparable ways.

1980s

If the 1970s were a time of competition and international collaboration, the 1980s were a time of emerging computer technology which brought a shift in the way people communicate and collaborate, especially in the business setting. People began to have personal computers to work with, and in the later half of the decade, some companies began to study the effects of computer usage in meetings. Even Kenneth Bruffee's "Conversation of Mankind" encourages teachers to integrate collaborative work in their classrooms.

During this decade, Intel built the first microprocessor, making smaller computers that could be more powerful. IBM produced a word processor that included a video display that allowed writers to view their work in progress. Personal computers also became available. The first cell phone networks were becoming available. Apple introduced the first computer with a graphical user interface that allowed us to look at screens, have color, and click on icons. Before graphical interfaces, people had to interact with a black screen by typing in commands. Douglas Engelbart—a pioneer in the development of computer-based technology and known for his life goal of determining how technology can improve people's effectiveness in complex, urgent problems—created a software called Augment. Initially, this product was developed to give humans the capability "to deal with tough knowledge work and to process large volumes of information." It ended up being a tool for facilitating collaboration among workers. One of the notable features of this software is *televiewing*, a process that allows different people to have access to the same screen through different terminals in different locations. This conference is typically paired with a telephone connection. Other tools include a shared files system that employs a "track changes" type of editing and an internal mailing system. The technology was much different than that of today and were still pretty costly, even for large businesses. Not only were they costly, but there was also a lack of standardization. A lot of computer and software systems of the 1980s were incompatible.

One intensive investigation is Geoffrey Cross's time with a company he calls Auldouest Insurance Corporation while they are attempting to improve their writing as a company. Specifically, they were writing the executive letter that begins an annual report. This two-page letter took 77 days to complete. From his observations, field notes, interviews, and editing sessions, Cross gives a detailed description and analysis of this group's development. He makes note of negative factors, such as hierarchical distribution of power, degree of positive emphasis, suppressing conflict, delegating, different perceptions of audience, and competing purposes, to name a few. His final thoughts are to further explain his title—the use of positive emphasis, a factor in business writing where corporations are pressured to use positive tones and superlatives to overstate their points. Such overstating can have very negative effects on a country, he supposes, because people begin to overestimate and thus be more willing to take monetary and potentially misguided risks. On a grander scale, Cross also discusses the poor quality of real businesses' writings, the evolved understanding of composition as a social process, and specifically, M. M. Bakhtin's theory of language to "illustrate the connection between the frequently volatile political context of writing, the written product, and by inference, the group-writing process" (9). This type of research gives a clearer picture of the problems and processes of the late 1980s.

This study and many others did not have computers as a considering factor. Writers were using computer technology, but it was not widely used in collaborative endeavors. However, some interesting research found that productivity was greatly increased by computers. These were only preliminary studies, and their use was on the verge of becoming popular.

1990s

These studies at the end of the 1980s continued on into the 1990s as business and researchers were becoming more interested in how computer technology could make collaboration more efficient. The world was becoming increasingly connected with the sharing of information. The World Wide Web was created and made free. Computer engineers were starting to build more sophisticated machines. A couple of smart computers could play chess or jeopardy. The world also began the use of wireless data transmission which greatly reduced the cost of Ethernet cables and the amount of service needed on such hardware. Technology was becoming even more sophisticated and at a much faster rate. In terms of collaboration, the 1990s were a sophisticated explosion which we can view in both the universities and in business.

The studies of academia often point to trends in the working world and offer a unique place to study group processes. Jolene Galegher and Robert E. Kraut wrote that students' end products were not affected by computer-mediated communication, but it was more difficult for them to

complete the tasks given. In another study, The University of Arizona partnered with IBM to create an Electronic Meeting System (EMS) which aspired to make group meetings more productive by using information technology. These meetings consist of a series of networked microcomputer workstations arranged in a U-shape. They found computer-mediated meetings to be extremely successful because efforts such as brainstorming were anonymous which encouraged more participation. The software also allowed for a large screen where everyone could see the same content at the same time.

The advancements did not escape application in the business world as the 1990s were a time of increased excitement about the possibilities of software and collaboration. Scott Jones conducted an ethnographic study on technical communicators reported frequency of collaborative writing activities that surveyed over 1,000 professionals in the Society for Technical Communication. Even within this select group, Jones notes the discrepant results from researchers approaching "collaborative writing from a variety of disciplinary and interdisciplinary perspectives" that operate under "different definitions" or do not clarify the definition at all (283). He attempts to define collaboration by what he calls "a relatively common term" that describes "a wide variety of activities." His categorizations are "contextual," "hierarchal," and "group." Contextual collaboration is using a former template to create a document. Hierarchical collaboration, a definition taken from Ede and Lunsford, is extremely structured with specific goals carried out by people who have clearly defined roles. Hierarchical collaboration can either be author-centered or sequential, or the passing of a document from writer to writer. Group collaboration is true to its name—a group comes together to write a document. These groups can be joint (working together to create the document one word at a time), reactive (working on separate sections at one time while reacting to one another's work in real-time), group single-authored (a group making decisions on a document typically written by one person), or horizontally divided (working independently on separate sections and bringing them back together at the end).

Jones offers the most detailed classification system for collaboration to date, but perhaps more importantly, this collection of mixed responses speaks to the increasing complexity and usefulness of software in collaborative activities. The success of the activity is directly related to the individual's capacity to use the software. Writers also agree that quality of writing may be related to the amount of "substantive conflict" that occurs during the process of composition.

2000s

The end of the 1990s brought a new millennium and with that smart devices, social media such as Facebook that was launched in 2004, the cloud, and a need for constant security patches in software systems. Jones argues that writers' jobs were significantly transformed by these changes which he calls "a transition to a digital concept of writing." Document creation included paper, email, online documents, Intranet documents, and Internet documents. Paper was used very infrequently. New media theory, according to Hewitt, points to the evolving nature of writing and products, "the composing process is even more multidirectional and nonlinear than the 'pre-digital' era" (45).

Specifically, Judith Kessler studied the technical publications team at Sybase Incorporated. This team maintains many thousands of pages of online user documentation for different kinds of software from nine different locations around the world. Within this study, this team, for purposes of greater efficiency, increased reuse opportunities, improved user experience, and transfered all their sources based in a variety of formats into the Darwin Information Typing Architecture (DITA). The group set-up is a testament to the evolving nature of collaboration and how technology is integrated into those discussions.

With these new formats, new challenges also are presented. The many different mediums make it difficult for writers to be proficient in them all. One notable software is wiki, websites that allow collaborative editing. According to some studies, wikis meet or exceed the capabilities of several other communication platforms. They offer distinct opportunities for new organizational communication and collaboration. Particularly, they allow refactoring—users continuously editing content. Again, the collaborative writing process is becoming more fluid as writers' work becomes more dependent on technology.

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2010s

In the most recent decade, the collaboration of successful businesses can be examined. General Electric has open collaboration policies, and Hewlett-Packard has changed the way it collaborates as well by video conferencing rooms to their office. By examining the practices of large-scale corporations, perhaps means of success can be identified. These examples along with other research has shown that collaboration is practically becoming unavoidable.

In understanding this new history and successes, we must also consider the evolving tools presented to communicators thorough technology. As technology has become more sophisticated, the number of applications and tools has increased. The top tools mentioned in a study by Behles are SharePoint, Google Docs, and company Intranet. For students, the top tools are Google Docs, PBWorks, and Blackboard. Most recently, Abram Anders discusses team communication platforms (TCPs). The TCP researched by this study, Slack, is said from a survey of tech insiders to be one of the top three start-up companies that will change the world. TCPs are defined as "messaging services that support collaborative discussions organized into groups or topics" (226). More importantly, they offer integrations with other popular platforms in things like video conferencing and screen sharing. He found the top reasons for adopting this TCP were better support for virtual collaboration, organizational openness, the need for interoperability with specific external services, and the need to centralize internal communication.

The collaborative software of today is a long way from the televiewing of the 1970s. From these many studies, a shift into collaborative tendencies is visible. From the international focus of the 1970s, to a focus on in the eighties on studying the usefulness of computers, to the nineties where computers really started to infiltrate business meetings, to the 2000s where the number of applications has created an almost overwhelming plethora of choices, the focus and means of collaboration has changed. From face-to-face collaboration to growing technology-based communication, benefits found throughout these studies are similar—distribution of workload, saving time, and a convergence of perspectives. To have successful projects also consider the size for often smaller is better, consider having a leader, beware of the loafers, and know that conflict can be beneficial.

As we use this growing knowledge and these evolving technologies, not only should we consider these tips but also note the upcoming generation's abilities to collaborate, their aptitude for social media, for their ability to communicate online, and for their ability to adapt to new and emerging tools. Millennials have grown up along with computers and possess a particular set of skills that could facilitate developments in the workforce. As noted earlier, the success of computer-mediated collaboration largely depends on the user's ability with the software. Luckily, for many, computers are practically attached to their bodies, and there is no escaping them, especially with the convenience they provide when working with others. People's skills have grown as technology has helped us to communicate across time and space. Now we can touch and move things in our screen as a direct interaction with our hardware—so much so that we may be becoming a part of it. Virtual technology is also becoming a popular software, and maybe it will be the next step for collaborative communication in the next decade.

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Missing Links:

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How to Hire the Right Technical Writer for Your Team

By JOSHUA DURKIN and SHELLEY FITZE | *STC Senior Member*

Ready, Aim, … Hire?

So you've defined the job requirements, and you've filtered through a stack of résumés from the recruiter or human resources. You think you're ready to hire your new technical writer? Think again.

If you've never been on the hiring end of this equation yet, let us give you a preview of coming attractions. For all you technical writers who have been part of the hiring committee, you may recall how it works:

1. Solicit lots of résumés.
2. Pull the promising résumés out of the stack.
3. Interview candidates. Offer writing tests. Look at portfolios.
4. Make an offer to the one who worries you the least.
5. Hope that another company doesn't hire them first, that you don't make what they see as a low-ball salary offer, or that their current employer doesn't panic and offer them the moon to stay.

If you don't make a good hire, you get to start the whole process all over again.

Your team's success and your overall sanity may rest on hiring a great candidate for your team. Remember, management only pays this person, but you and your team have to work with them every day. Hire in haste, repent at leisure.

You can easily find all the recruiting, interviewing, and selection aids you need, and there are many good interview methods available. However, in forty years of combined experience hiring and training writers, we offer you our six missing links to help you find your best team fit.

The First Link: Mind the Gap

You may be hiring a team writer to fill a gap that has opened because of company growth, changes in projects, team, or organization. Get your team together in a room and list the work you typically have to do. That's the obvious part of your gap.

Next, have them list every document they hate working on, meetings they hate, last-minute deadlines that keep them working into the night, applications they detest using, and basically anything else they would rather not be doing. That's the dark and hidden part of your gap. Somewhere out there is a technical writer who will look at your hate list as a perfect day.

The Second Link: Isn't It Obvious?

Here is a first question for the interview: "Tell me about your perfect day at work." Listen for what the candidate says and doesn't say. Do they cheerfully talk about being left alone all day to do the writing? Do they imagine how every review cycle they sent out comes back with rave reviews and no edits? If not, then follow up with, "Do you enjoy writing?" Believe it or not, we actually heard a promising candidate say, "No, actually, writing is my Achilles' heel."

Ask the candidate, "How did you get into technical writing?" Recently we had all candidates give the same answer, "By accident." Some candidates happily make a career of technical writing, but others would rather be doing something else. Back in Y2K we had a candidate disappear from the middle of her final interview when she got a call that her romance novel was being published. Find out what your candidate really wants and don't assume.

The Third Link: Opener or Closer?

Openers hit the ground running early in the morning and like to initiate meetings and conversations with other people who also get in early. These people go to all the early meetings that cross international time zones. Closers, by contrast, hit their stride later in the day and have tremendous stamina to complete the projects that the Openers started, or hang in there late to finish projects by end of day.

Chances are good that your gap list includes an opener or a closer.

The Fourth Link: Author or Editor?

Technical writers have to be both authors and editors, but most prefer one or the other, either creating content and starting documents or proofing and polishing documents for publication. An energetic editor will put Mozart on the headset and stare at a monitor all day, head down, reveling in the voice and the grammar, with intense attention to details. Die-hard authors will happily take thirty SME interviews in a week to create a new set of job descriptions and, when they turn in the project on Friday night, muse on why it took them so long.

The Fifth Link: The Irritating Candidate

If a candidate answers with something odd or unexpected, do not dismiss the candidate outright. Instead, say, "Tell me more." For instance, "I can't work under these conditions" once actually meant, "I can work better if you let me bring in my own mechanical keyboard, speedpad, and dual monitors." We did and he was right, he did work better.

Your instinct may be to hire someone who makes you feel good, feel comfortable. But is that a true test of a good hire? Once, after an interview, we heard a team member say, "She was really bugging me with all that talk about editorial checklists and readability studies. And she spent five whole minutes on drafting meeting agendas. I hate that stuff. Let's hurry up and hire her and let her do all that for us."

The Sixth Link: No Clones

Whenever someone popular and successful retires or leaves and has to be replaced—let's say his name is Walter—people will say, "We need to hire a new Walter." Once hired, "That guy is the new Walter." Be careful you don't unintentionally hire Walter's clone. Walter was familiar, but was he really perfect? And is he what you need right now?

You've Only Just Begun

During the first ninety days after a hire, you may still have a decision to make—did we make the right choice and should we keep our new hire? Look for opportunities to set up some early wins, so that you, your team, and the new hire can agree on what works and what needs to change.

Most importantly, don't ever stop looking for those missing links. There will be a next time.

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MadCap Flare Refresh: Reviewing the Basics to Work Smarter

By KATE SCHNEIDER

WHEN YOU'RE GETTING ready to start a new job, you prepare yourself in many ways. You clean up your résumé, you study companies, you might even buy a new suit. But if you've held one technical writing position for a few years, and especially if you've been using a single authoring tool for a long time, it's easy to forget one thing that might be beneficial when you start your new job: brushing up on your authoring tool knowledge.

Consider these questions:

- Will you be responsible for different tasks in your new job?
- Will you be building a Help system from the ground up, or will you be managing a complex project?
- Will you be single-sourcing content in your new job?
- Has your authoring tool released new features recently? If so, have you used all of them?
- Do you use a set process at your current job? Have you experimented to see if there are more efficient ways to use your authoring tool (e.g., new features, different settings, single-sourcing options)?
- Were you responsible for setting up your current project? If so, when was the last time you looked at those setup files (e.g., page layouts, stylesheets, master pages, targets)?

If you said yes to any of these, you're not alone. However, you don't know what you'll be getting into with your new job—that's one of the things that makes new jobs exciting. This also means that you might need an entirely different authoring tool approach than you're using now.

When I decided to leave my technical writing job at MadCap Software—which makes MadCap Flare, an authoring tool, and other software for technical writers—I knew I had no small task ahead. I was used to working with fantastic documentation, and lots of it. I was a tech writer for tech writing software! And now I was tasked with starting from scratch: building a new Help system from nothing. So before I got started, I brushed up on my Flare basics. I'm glad I did, because it helped me get my project up and running efficiently, with long-term goals in mind. If you're starting a new job—or building out a new project at your existing job—I recommend reviewing project setup, project structure, and single-sourcing to help you get started.

Project Setup

Before I could write a word, I needed to start a new project. But first, I had to consider if I wanted to use a single project for all of my deliverables (or use a global project with linked child projects), and if I wanted to use a template or start from scratch.

Single Project vs. Linked Projects

Using a single project and using linked (master and child) projects both have their benefits. A single project is easy to manage because you don't have to worry about knowing where files are stored or accidentally editing linked files in the wrong project. Linked projects (known in Flare as global project linking) are easy to manage because all of your shared files (e.g., page layouts, stylesheets) are stored in a master project, and each deliverable is linked to that project in a child project; this keeps all of the projects smaller and cleaner.

For my new project, I will be working with lots of shared files, but I will also be working with multiple audiences and repurposing many of the same topics across deliverables. I chose to use a single project and then apply conditional tags for each of my deliverables (discussed later), because I had too many files that would eventually be shared.

If you have been using one system or the other, you should take some time to get familiar with how the other system works and what might work best for your new project. Additionally, global project linking is a feature specific to Flare, so if you are using a different authoring tool and coming over to Flare for a new position, I recommend familiarizing yourself with this on a small test project—in other words, before you have dozens child projects and thousands of linked files to worry about.

Scratch Project vs. Flare Templates

Once I decided to create a single project, I had to decide how to create it. I could create it from scratch, which would give me the most flexibility for pretty much everything: a blank Flare project comes with one starter topic, and that's pretty much it. Of course, this would mean I'd either be working with generic-looking topics for a while, or I'd have

to spend some time putting together company-tailored stylesheets and page layouts (or getting them from my company's design team). I planned to do this eventually, but I wasn't sure I wanted to do it on my first day.

On the other hand, I had several out-of-the-box Flare templates at my disposal for both printed and online outputs. These templates are great for new Flare users who want to have some basic settings in place (e.g., page layouts, stylesheets) or who want to get started quickly. They are also useful for experienced users who are less concerned with creating a custom project right away and just want to get words on paper.

I decided to cobble together my own project. I started with Flare's Online & Print Top Navigation and PDF Advanced template, because I wanted a TopNav home page set up in case I needed to show anyone sample HTML5 output. However, I knew that initially I'd be working with PDF outputs, and this template also gave me a full complement of page layouts to use. Next, I deleted everything I didn't need to declutter the template—including all of the starter topics—so I could structure my topics exactly how I liked. Finally, I opened the stylesheet and added several custom styles that I wanted in my project to format notes and examples. This all gave me enough to work with as well as make my project look nice (while allowing me to build outputs), while not being too company-specific. Later, when I am able to grab a few minutes of the graphic designer's time, I'll give him what I have so far and he can help me add company branding to my stylesheet and layouts.

Figure 1. Use standard templates to get basic files for project setup, then edit them to reflect your immediate needs.

Project Structure

When I started my new position, I knew that I would be creating multiple deliverables and writing for several audiences, but also that I would be creating PDF outputs now and online outputs later. I want to be able to put my project together without having to restructure it in a few months, so I carefully considered my project targets and tables of contents.

Project Targets

I came into this position knowing that I'd be working mostly with PDF outputs to start, but I would also need a basic HTML5 output to use as a sample, since I'd be building this in the future. I had a short list of project deliverables: all PDF, with one end user guide and the rest designed for administrators.

I started by creating multiple PDF targets in Flare's Target Editor. What makes each target unique is its set of conditional tags based on audience. I'll discuss this in more depth later, but what you need to know for now is that each target uses tagging to define the content that appears (or does not appear) in the final output. I set these rules in the target before I even got started writing. This way I could get started with single-sourcing right off the bat and know that my final outputs would show the correct content.

Additionally, I enabled the "Use TOC Depth for Heading Levels" option on the Advanced tab of the Target Editor; this allowed me to use Heading 1s on all of my topics and have Flare automatically update the heading level based on the topic's location in the TOC (which is useful if I repurpose a topic in a different table of contents at a different level).

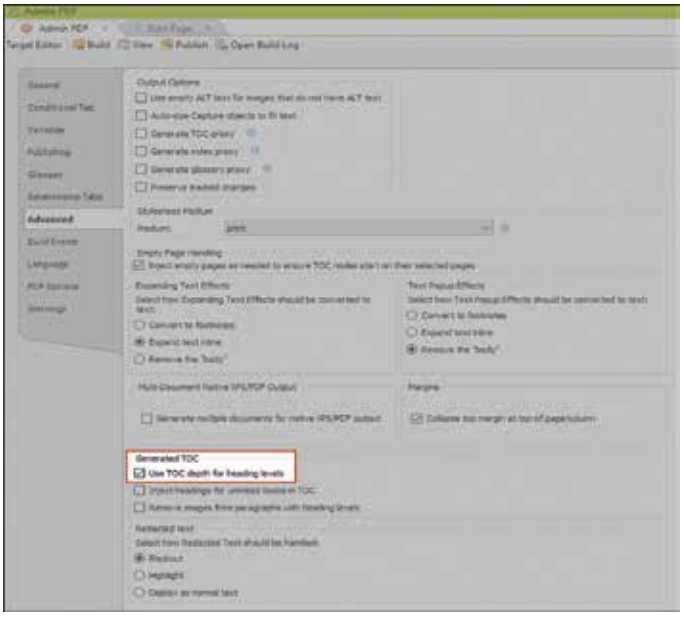

Figure 2. Enable "Use TOC Depth for Heading Levels" to make your heading levels reflect their location in the table of contents.

Tables of Contents

Because I was going to be starting with printed output, my initial table of contents was for one of my administrator PDF guides. I set up my TOC so each functional area of the system was a chapter, with related concept and task topics making up the bulk of the chapter's content.

I also set up a skeleton TOC for my future online output. This TOC was set up differently, with only a few first-level

topics ("Features," "Administration," and "Interface" for now; I'll add no more than two or three more as my project grows). All of my other topics fall as second- or third-level topics in one of these categories. Because I will be using a Top Navigation HTML5 structure for my online output, limiting to five or six top-level topics will keep my navigation uncluttered.

Single-Sourcing

As any writer who has used it knows, single-sourcing is a massive topic. I've been using single-sourcing for many years, but I always feel like I'm learning new tricks that help me find ways to repurpose my content just a little bit more effectively. I was excited to start a new project from nothing because it meant that I could really maximize my content reuse. With knowledge of my deliverables and audiences in hand, I could get a good grasp on single-sourcing right away. I focused on conditional tagging and reusable content.

Conditional Tagging

Conditional tagging allows you to exclude (or include) content from your project at the target, topic, or snippet (a type of reusable content) level. This is invaluable because if you are writing for multiple audiences or creating multiple deliverables, you can effectively filter a single document to show only the content that is related to the relevant audience or deliverable.

I knew that I needed to write for administrator and end user audiences, so I focused my main conditional tag set on these audiences. As mentioned previously, I toggled the conditional tags in each target to reflect which audience should see what content. For example, if I tagged a topic for "Admin," that was included in my Administrator Guide, but excluded from my End User Guide.

I also created a number of snippet-level conditions to include or exclude content in my reusable snippets (in Flare, these conditional tags can be treated separately from your other conditions, and you can toggle them on and off for individual snippets). In previous jobs, I have based these on audience or target, but this got unwieldy, fast. But I learned a trick at MadCap that I implemented at my new job: I simply created a handful of numbered snippet conditions. Then, I can turn them on or off as needed. Because they are not specifically tied to a target, they are easy to maintain and manage, and I can use them in any topic.

Reusable Content

My biggest focus was on reusable content: snippets and variables. I have rarely had a chance to start a project from scratch, so this was a thrill. From the first topic I wrote, I was on the lookout for content that I was using in more than one place. If it was used often enough or was complex, I immediately turned it into a reusable snippet to use again later. By creating reusable snippets (or variables, in the case of page names), I am able to make changes in one place that are reflected throughout my project. Additionally, I can use the snippet conditions that I created to enable or disable content within a snippet so it displays only where I want it.

Finally, there is one other feature that I was particularly excited to add to my project: snippet variables. But I thought they'd be a great addition to my project. I have several topics that have similar content, except for the page name or the name of a feature. I created multi-definition variables for this information (each definition is the different page name or feature), and added them into snippets for each step in my topic. Then, using Flare's snippet variable settings, I can change the variable definition that appears in the snippet. Same content, two—or three or six—results!

Getting started on any new project or with any new job is always difficult, but reviewing the basics and taking the time to think out your long-term goals before you get started will help you avoid re-work in the end.

If you want to know more about any of the topics I've discussed here, check out the MadCap Flare online Help at *http://help.madcapsoftware.com/flare.*

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Snippet with snippet variables
On the FeaturePage: Collections page, select the Feature: collection you want to subscribe to.
Output Version 1 (original definition)
HOW TO SUBSCRIBE TO A COLLECTION
1. On the Collections page, select the collection you want to subscribe to. See "Viewing Available Collections" on the facing page.
Output Version 2 (additional definition)
HOW TO SUBSCRIBE TO AN INTEREST
1. On the Interests page, select the interest you want to subscribe to. See "Viewing Available Interests" on the next page.

Figure 3. Snippet variables give you additional flexibility when working with reusable content.

Seeing Worldviews and You-Views:

Kirk St.Amant Discusses the New Challenges of Global Communication

By ELIZABETH SONEWALD and SAVANNAH DEFREESE | *STC Student Member*

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This article is based on an interview with (and readings by) Dr. Kirk St.Amant on 28 March 2016, on the occasion of his visit to the University of Tennessee, Knoxville, as the Spring 2016 Rhetoric Series Speaker for the Division of Rhetoric, Writing, & Linguistics in the University of Tennessee Department of English.

ALTHOUGH ARISTOTLE PROVED the earth was round in 330 BCE, modern global communication has leveled the ground once again. Technical communicators must now consider audiences at an international level, while collaborations and information exchange can happen in real time, heedless of the physical barriers of space. These modern horizons pose new challenges for the field of technical communication. While current technical communicators must simply modify their expertise to accommodate this globalization, young professionals entering the field must start from square one as they acclimate to a larger, more far-reaching field than anyone before them. They must combine the experience of the past with the tools of the future. So where do these two meet? In professionals and teachers like Dr. Kirk St.Amant.

Dr. St.Amant's research offers insights on how to penetrate and become successful in this international realm of technical communication. We interviewed Dr. St.Amant over breakfast, the morning after he arrived in Knoxville to give his presentations as the Spring 2016 Rhetoric Series Speaker for the Division of Rhetoric, Writing, & Linguistics in the University of Tennessee Department of English. Rather than presenting a "script" of the interview, complete with labels showing when we are asking him a question, we have written this article to describe our encounter with this scholar and quote him as appropriate, as he discussed his work and ideas.

St.Amant, who specializes in the fields of technical communication and international studies, has focused his research on how to contend with these new challenges in global communication. He emphasizes the importance of recognizing the complexity of cultures, which "are comprised of cultures within them." St.Amant's research focuses on ways to communicate across these cultural layers. Two of these communication concepts, *personas* and *friction points*, provide cutting-edge approaches that can improve understanding of global audiences and lead to more effective technical communication.

Personas

In this global age, communicators write for vast audiences with varying cultures, languages, and beliefs. On top of these complex factors, communicators must now deal with multiple technologies—many different devices, software interfaces, and varieties of Internet and data access. Understanding the rapidly changing array of communication technologies and the emerging nuances of global audiences are essential skills for communicators. St.Amant has researched a technique that helps

Focusing on friction points and personas are ways of examining both broad cultural ideas and specific, personal circumstances in order to craft effective communication.

communicators more effectively reach their audiences by categorizing and understanding these complexities. This technique is known as *understanding personas*.

According to St.Amant, before advent of the personas approach, communicators relied mostly on demographic data to understand their audiences. He explained that, while demographics are critical in defining who your audience is, they are thin on context. St.Amant identifies personas as the key to contextualizing demographic data. He described the persona method as "grafting ethnographic research onto demographics." He expanded: "So we look at how a person lives the course of daily life, at what point in time will she use this technology, at what point in time would she access this information, and based upon that you design not just for her but for the context in which she's using something, the context of use." This "context of use" provides communicators with a comprehensive understanding of their audience, thus equipping them to design and tailor a communication product.

Understanding personas requires careful observation and research of your audience. In his article coauthored with Guiseppe Getto, "Designing Globally, Working Locally," St.Amant identifies what data are necessary to create a persona: demographic, contextual, behavioral, and attitudinal. In order to collect that data, the authors suggest a "mixed methods approach," including surveys, observations, and interviews/focus groups to more effectively reach their audiences. It is best to interact with several individuals in order to create a thorough and accurate representation of your audience (31).

Though it requires meticulous research, the persona method helps communicators remember the human element of global audiences. To illustrate this, St.Amant uses an example of a reader consulting medical instructions in an emergency: "Chances are when most people are going to turn to emergency medical instructions are going be under a time of duress, at that point in time are they going to want to read a very standard generic laundry list of what to do? Or do they want information packaged in a specific way to find it very quickly. That's the benefit persona brings; you get to keep that human being in mind; that human being will have different emotional states, they'll be suffering different stresses and duresses during the time they're using something." In this example, the readability and accessibility of medical

instructions can truly mean life or death. It is situations like these, the persona method becomes pivotal. It focuses on who that reader will be, and equally on the possible contexts in which she will be using the instructions. In this way, St.Amant argues, the personas method helps us remember something critical about our audiences: "They are human, they're going to be under pressure from human frailties." Persona helps communicators identify the best way to do that, especially as they face broader audiences.

Friction Points

St.Amant explains that, whereas the persona approach focuses on individuals, the concept of *friction points* builds on that hyper-focused view to encompass the global sphere. Friction points are areas that "slow or stop the flow of information," and they encompass everything from the larger legal structure to the kind of mobile technology people use in their day-to-day lives. To illustrate how these friction points are layered, St.Amant describes a series of concentric circles. "Think of culture as existing in concentric circles that affect friction points. Let's start with the foundation: what is culture? Culture is basically a worldview. It's how you look at the world and organize stuff in it; what is worth paying attention to, what is worth talking about, that's our culture. And that in and of itself creates friction points because we have different opinions. But our culture tells us, 'This is how you play nice.' And so we have rules for engagement."

St.Amant continued, "That's the primary sphere. The secondary sphere is intercultural. So you have two different cultural groups in proximity; in this case let's talk about two different cultures in the same country. Canada: French and English; in the US: a large Hispanic population. Two different cultures, different worldviews. Those different worldviews are going to create different friction points in terms of what we talk about and how we talk about it. What matters to me is not necessarily what matters to you, and we've got different rules of engagement. So the friction points there are cultural or linguistic. Now let's move to the next sphere: international. So we've moved outside of a country, and now we're talking about geopolitical spheres. Not only do I have to account for culture and language, I've also got to account for politics, economics, and geography. So those legalistic aspects, those economic aspects become friction points. Let's push it all the way out: the largest sphere is global. We're going to do everything all at once, all across the world; that's infrastructure. So those infrastructures become friction points on a vast scale. The level of this concentric framework that you look at begins to reveal the friction points, and once you know the level, you can begin to identify the friction points it contains."

Summing Up

As technical communicators become more aware of existing friction points, they will be better able to address them. Focusing on friction points and personas are ways of examining both broad cultural ideas and specific, personal circumstances in order to craft effective communication. As St.Amant explains, "The problem historically with intercultural communication has been something called the monolith, that is, all cultures have been treated like these monolithic entities. But recognizing personas and friction points and spheres is a way of looking at culture as more complex than that. We all know that Cultures are comprised of cultures within them, and cultures are comprised of groups and individuals. That's where personas come in, looking more closely at people within a culture rather than letting them be faceless entities, demographic statistics. And friction points: what kinds of *different* experiences do different individuals in different cultures encounter as a result of their different worldviews? These approaches help defeat the monolithic approach, where communications are ineffectively generalized. So that's kind of the big challenge: how do we break up the monolith and become more effective communicators on a global scale?"

The struggles that St.Amant describes are sure to continue as technology continues to pull the edges of the earth closer together. As he says, "That's a phenomenon that happens with every generation, but between my generation and yours, the speed with which it has happened and the global proliferation is incredible, and my generation can't keep pace with it. It's extremely challenging to understand these dynamics, but it requires these kinds of partnerships, where generations have to work together to do these things."

Constantly changing and emerging technologies, economic shifts, and cultural differences will continue to create friction, but generational partnerships—and new approaches to communication—offer solutions. Awareness of friction points and personas provides analytical tools for emerging technical communicators, who must grapple with the benefits and challenges creating by our exciting global connections. i

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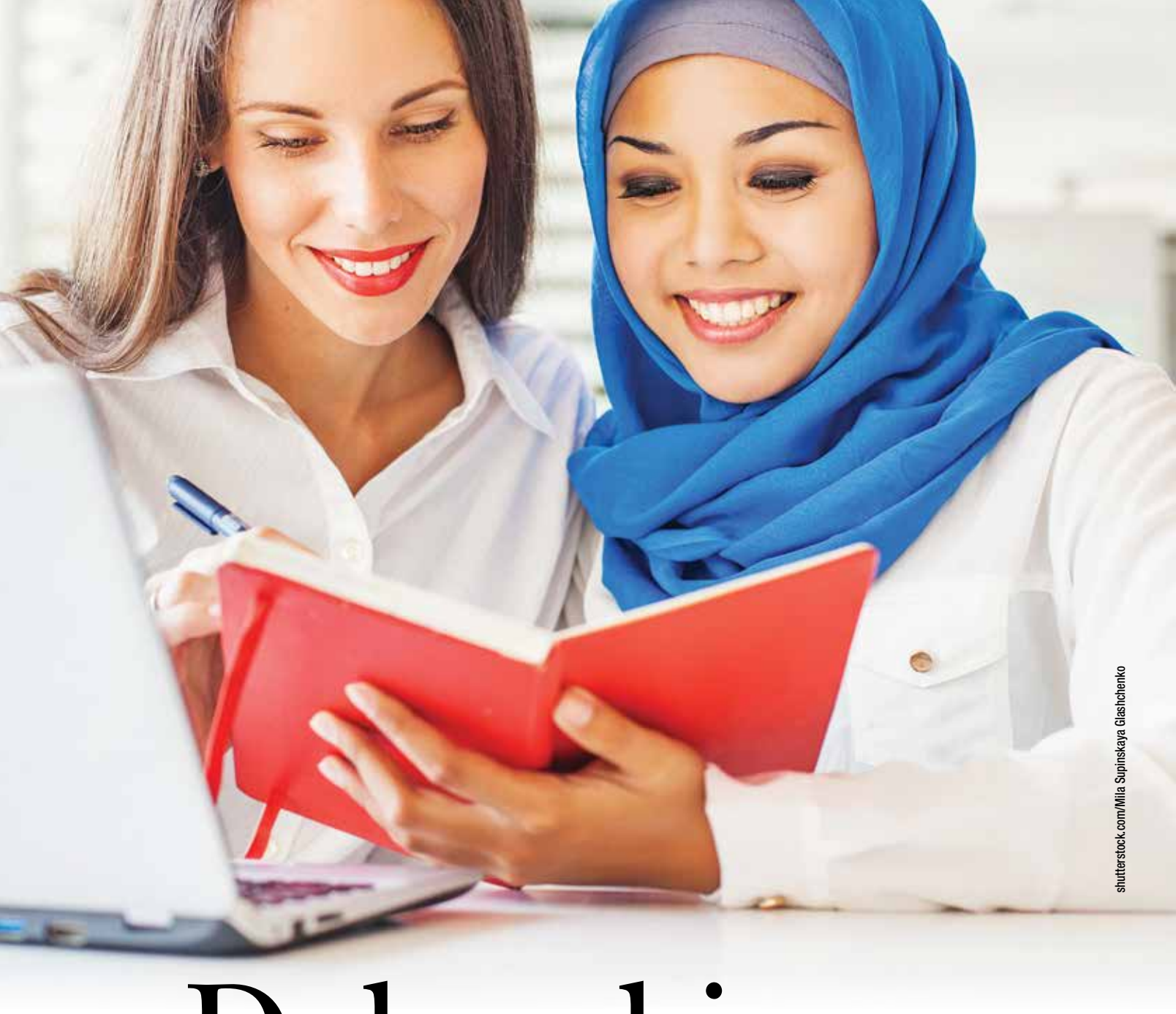

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Debunking an Assimilationist Approach in an Intercultural Classroom:

Adjusting Instructor Pedagogy

By TIFFANY PRICE

THE WESTERN EDUCATIONAL SYSTEM is growing in terms of international student representation, and as the world globalizes in this respect, there is an expected continuous progression of internationals integrating into the Western classroom. As the Western classroom shifts in international representation, instructors are called to adjust with this change. One measure of transitioning that is deemed necessary in an intercultural classroom requires pedagogical adjustments in order to meet the educational needs of all students in the classroom.

Through the investigation of an assimilationist approach, the instructor of a university-level intercultural classroom will discover how not to proceed when it comes to creating a welcoming learning environment for international students. The assimilationist approach, which this article will spend time dissecting and debunking, is counterproductive to the positive temperature of the Western classroom as it grows in international representation. With an assimilationist approach firmly positioned in the instructor's pedagogy, the international student is expected to adopt responsibility instead of leaving the responsibility for class involvement in the instructor's hands. Also, an assimilationist approach to an intercultural classroom leaves little to no room for pedagogical adjustments necessary for creating a warm and welcoming environment for all students, domestic and international.

Assimilationist Approach

An assimilationist approach to an intercultural classroom suggests that students with an international background must assume the burden necessary to learn in a culturally unfamiliar environment (Macdonald & Sundararajan). However, international students integrating into a Western educational system will not come prepared with the knowledge of cultural norms and behaviors that will allow for simple adaption. In fact, Ulijn and St.Amant make a strong claim for the cultural differences that vary from country to country, and that any student introduced to the Western educational system would struggle to simply adapt without assistance from the instructor.

The history of an assimilationist approach, derived from an immigration movement, dates back to the early 19th century. The concept of assimilation, examined by Brown and Bean, explains that "In general, classic assimilation theory sees immigrant/ethnic and majority groups following a 'straight-line' convergence, becoming more similar over time in norms, values, behaviors, and characteristics." The history of immigration, where the assimilationist approach is encouraged, assumes that those immigrants are permanently transitioning to the Western culture and intend to remain in or assimilate to that culture. The international student would likely be staying in the Western culture for the duration of their educational endeavors. Therefore, to expect an international student to adopt an assimilationist approach in an intercultural classroom without assistance from the university instructor would be counterproductive to what both the instructor and the student should strive for in terms of achieving student success in the classroom.

The counterproductive assumption that international students will be prepared to assimilate into the Western educational system without assistance proves that the assimilationist approach applied to an intercultural classroom will create disharmony between students and instructors. Furthermore, the repercussions of applying an assimilationist approach to the intercultural classroom could entail that the international student representation in the Western educational system would decline due to the uncomfortable assumption of international student assimilation adopted by the instructor (Macdonald & Sundararajan).

Instructor Responsibility

An assimilationist approach to an intercultural classroom also entails that the students will be responsible for their complete understanding of all classroom material and activities, which takes the responsibility out of the instructor's hands. Getto was introduced to a culturally diverse classroom where he adopted the idea for participatory design as a means of encouraging student participation in classroom activities/lessons. This drive to encourage student participation led Getto to pursue personal interaction with all students in the classroom with the intention to improve his instructional methods and achieve student success in the classroom. Getto used questionnaires and interviews in his study, which led to concrete evidence supporting the fact that instructors are required to be proactive in order to get all students, international and domestic, interacting with the classroom material, discussions, and activities.

The need to break the mold of an assimilationist approach is evidenced through the discovery of different cultural norms that vary from country to country. Figure 1 provides the "iceberg model" used in Ulijn and St.Amant's study as a means of depicting cultural differences and providing an analogy for human consciousness. When attempting to comprehend how culture effects communication, there are levels of explicit and implicit complexities within each culture that should be examined.

The explicit and implicit complexities would dismantle the assimilationist approach as we see how people from opposing cultures behave and respond to communication

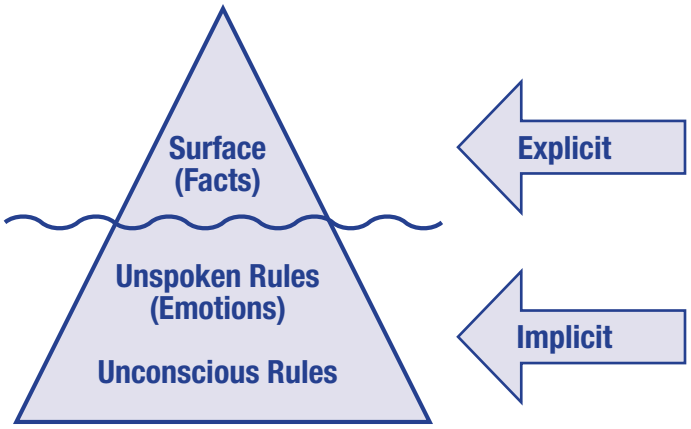

Figure 1. Ulijn and St.Amant's "Iceberg Model"

opportunities on and below the surface. Figure 1 describes explicit complexities to cultural norm as those facts visible on a surface level. In an educational environment, this would entail that the international students are stretching their educational experience by pursuing a Western venue rather than enrolling in a university that adheres to their comfort level and cultural norms.

Furthermore, Figure 1 also reveals implicit complexities to cultural norms. This implicit information exists below the surface; what we cannot attest to on a visual level. So, this implicit section would involve behaviors, rules, emotions, norms, and traditions specific to any country or culture (Ulijn & St.Amant). Examining Figure 1 debunks the myth that adopting an assimilationist approach in an intercultural classroom is an appropriate response on the instructor's behalf when looking to achieve student success in an intercultural classroom.

Instructor Pedagogy Adjustment

In an intercultural classroom, international and domestic students have specific needs that vary from culture to culture; needs that, if met by the university instructor, would allow for student success. The instructor is responsible for examining the various needs of the classroom in order to create a warm and welcoming environment for all students to achieve success—and the means of doing so lie directly in pedagogy adjustment. Macdonald and Sundararajan claim that students from an international background will likely have difficulty being active in classroom discussion. This is commonly due to the fact that "international students' efforts to participate in the classroom are thwarted by the pace of the discussion and the speed of domestic students' speech" (51). This means that instructors are required to examine their pedagogical approach to an intercultural classroom and determine important measures of inclusion that divorce themselves from an assimilationist approach. Class discussion is just one of many examples that require pedagogical adjustments in an intercultural classroom where domestic and international student success is the goal.

Conclusion

The negative connotations that follow the description of an assimilationist approach in an intercultural classroom will disrupt the temperatures of warmth and inclusion necessary for student achievement in a Western university context. An assimilation approach assumes that students will adopt the norms of Western culture as a way of integrating into the educational system, and this approach takes the responsibility for inclusion strategy out of the instructors' hands (Macdonald & Sundararajan). Such counterproductive assumptions do not calculate that the opposing cultural norms will make international student assimilation very difficult on the international student, potentially ruining their experience in a Western educational system.

Therefore, the need for adjusted instructor pedagogies when dealing with an intercultural classroom to ensure that all students are engaging with classroom material, discussions, and activities is essential if an instructor wants to create a welcoming environment that will allow for student success. Overall, instructors of an intercultural classroom need to drop all adopted theories surrounding an assimilationist approach to education. Instead, university instructors of an intercultural classroom need to adjust pedagogies in ways that will achieve international and domestic student success in the classroom. i

TIFFANY PRICE *is celebrating her fourth term of teaching English Composition 1 through University of the People, a strictly online university that has recently partnered with UC Berkeley. Tiffany is able to apply her focus on the intercultural classroom, developed through her graduate studies in Technical and Professional Communications at East Carolina University, as she teaches students in an online environment that extends to over 200 different countries. In unison with attaining a certificate in Professional Communication through East Carolina University, Tiffany also achieved a certificate in Multicultural and Transnational Literatures. Tiffany and her husband have just recently settled in Ann Arbor, Michigan after a two-year residency in Manchester, England.*

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Final Slate: Meet the Candidates Running in the 2017 Election

THE STC NOMINATING COMMITTEE (composed of members Cindy Currie, Viqui Dill, Rick Lippincott, Becky Todd, and Chair Bernard Aschwanden) is pleased to announce the final slate of candidates for the 2017 Society election.

President

Alyssa Fox will automatically succeed from the office of Vice President

Vice President

- Craig Baehr
- Jane Wilson

Treasurer

- James Bousquet
- Timothy Esposito

Director

(two positions to be elected)

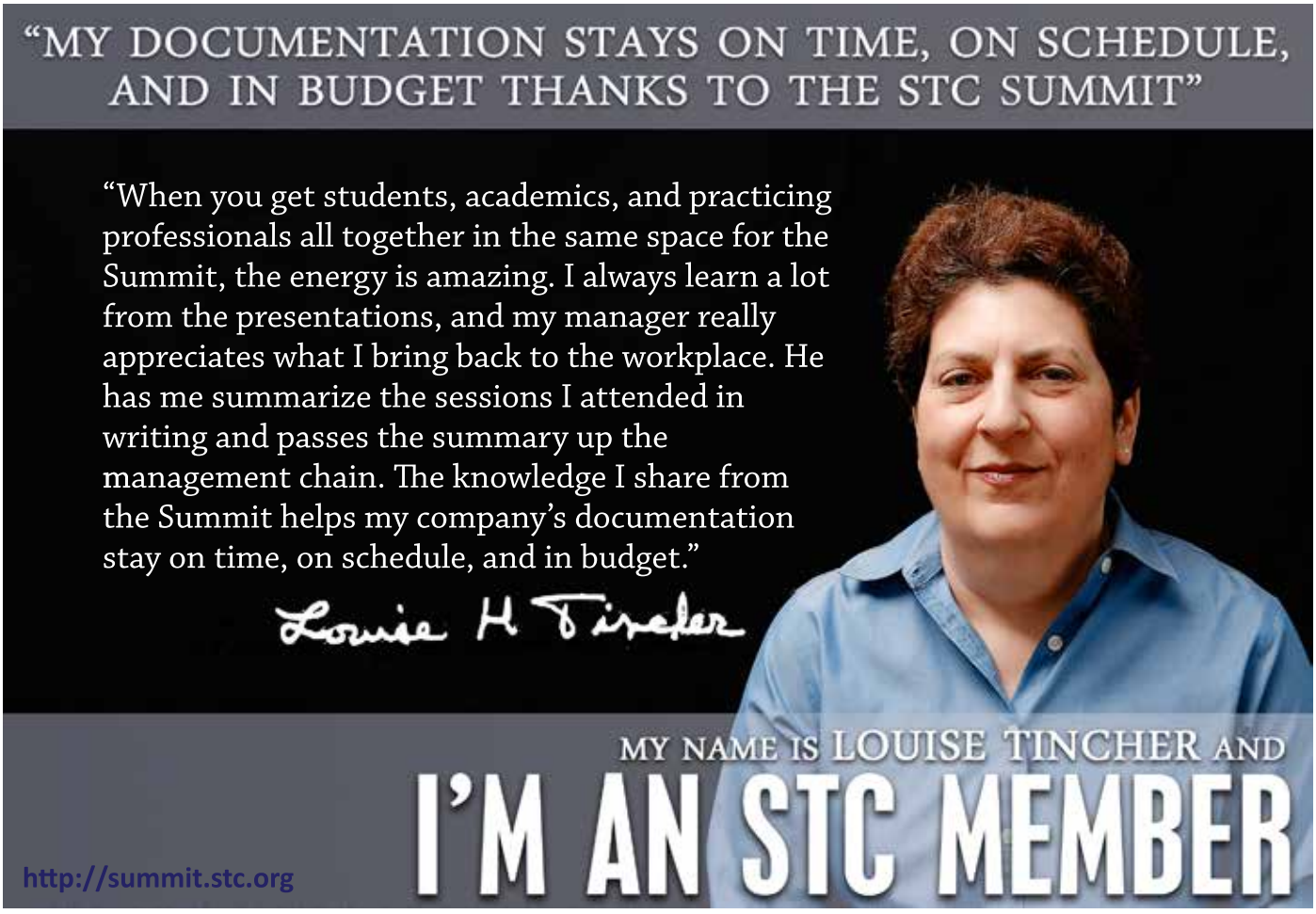
- Ramesh Aiyyangar
- Jessie Mallory
- Robert Perry

Nominating Committee

(two positions to be elected)

- Jamie Gillenwater
- Grant Hogarth
- Larry Kunz

Congratulations to the candidates, and thanks to all STC members who expressed interest in running for office. The Society election is scheduled to open on 27 February and close on 10 March 2017.


"MY DOCUMENTATION STAYS ON TIME, ON SCHEDULE, AND IN BUDGET THANKS TO THE STC SUMMIT"
"When you get students, academics, and practicing professionals all together in the same space for the Summit, the energy is amazing. I always learn a lot from the presentations, and my manager really appreciates what I bring back to the workplace. He has me summarize the sessions I attended in writing and passes the summary up the management chain. The knowledge I share from the Summit helps my company's documentation stay on time, on schedule, and in budget."
Louise H Tincher
MY NAME IS LOUISE TINCHER AND
I'M AN STC MEMBER
http://summit.stc.org

Ten Must-See Museums in Washington, DC

BY UGUR AKINCI | *STC Associate Fellow*

IF YOU LIKE MUSEUMS, you're in for a treat. Welcome to the National Mall in Washington, DC—a special and unique cultural haven offering what you can't see anywhere else in the world. And did I say for free?

What follows is a Top Ten list of spectacular museums all located within a mile radius on the National Mall. However, a warning is in order: these museums are so large and comprehensive, you'd need to commit more than a quick weekend to visit and enjoy them all. Soft comfortable walking shoes and a backpack with energy bars and water bottle are recommended for your optimum culture-vulture pleasure.

1. National Gallery of Art (NGA)

If you visit Washington, DC and leave without checking out this magnificent museum, you'll be missing a lot. The super sleek East Wing, designed by the incomparable I. M. Pei, is devoted mostly to modern art and new exhibitions. To enjoy the old masters and permanent collections, visit the West Wing. While you're on your way there through the underground passage, stop by at the museum cafeteria, enjoy a sandwich and the "Waterfall Window."

http://www.nga.gov/content/ngaweb.html

2. National Air and Space Museum

If you love technology like I do, this is definitely worth your time. Where else are you going to see Lunar Module LM-2, the vehicle that landed on the moon? Or the very first airplane, the Wright Flyer, that defied gravity? Don't forget to visit the museum's extension in Northern Virginia as well (*https://airandspace.si.edu/udvar-hazy-center*) where they exhibit the SR-71 Blackbird spy plane.

https://airandspace.si.edu/

3. National Museum of Natural History

For all nature lovers, those interested in plants, animals, rocks, fossils, and the story of mighty evolution.

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The interior of the National Natural History Museum

A priceless educational resource for geeks and inquiring minds of all ages.

https://naturalhistory.si.edu/

4. National Museum of American History

A mega pit-stop for history buffs, especially those of American History. Centuries of social, economic, and technological change and development displayed through thousands of exhibition pieces that collectively paint the American Mosaic.

http://americanhistory.si.edu/

5. National Museum of African American History and Culture

The latest, a truly magnificent and opulent addition to the national museums on the Mall. "A People's Journey—A Nation's Story" is how the museum site summarizes this must-see shrine to the struggles and successes of African Americans.

https://nmaahc.si.edu/

6. National Museum of American Indian

Like none other, this national museum displays another facet of the

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The interior of the East Building of the National Gallery of Art

"American Story" through the lenses of Native Americans. The museum hosts special programs if you visit in November, during the American Indian Heritage Month.

http://nmai.si.edu/

7. National Museum of African Art

A rich tapestry of African art, culture, photos, special collections, and live events. The museum offers great educational resources for students and teachers alike. If you love things African, you'll be richly rewarded during your visit.

https://africa.si.edu/

8. Hirshhorn Museum and Sculpture Garden

Sculpture lovers take notice: you've never seen a museum like this before. Shaped like a multi-layered cake with a hole in the middle, Hirshhorn offers a lot even for the most discriminating art aficionado. Especially noteworthy are the ever-changing installations and special collections.

http://hirshhorn.si.edu/collection/home/

9. Arthur M. Sackler Gallery

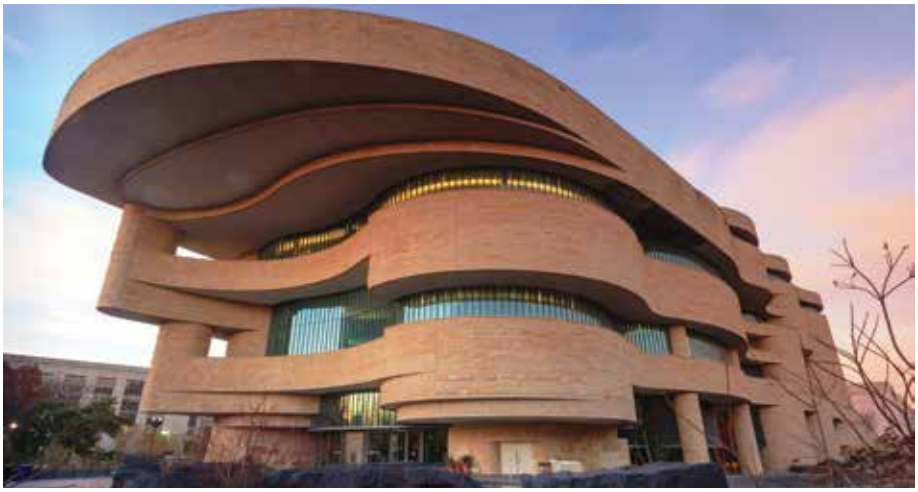
Together with the Freer gallery, this is home to one of the greatest collection of Asian art in America. What you'll enjoy depends on when you visit since the exhibitions change frequently. Sometimes you'll be treated to a collection of rare Buddha statues; on another day it might be a collection of thousand- year old hand-written Korans. Interesting fact: 96% of the museum is underground.

http://www.asia.si.edu/

10. Freer Gallery of Art

Freer Gallery has a larger scope than its twin, the Arthur M. Sackler Gallery. With over 26,000 art objects dating all the way back to the Neolithic era, its eclectic collection is guaranteed to please all. Especially noteworthy is the famous "Peacock Room" by American painter James McNeill Whistler. Don't miss it.

http://www.asia.si.edu/



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The exterior of the National Museum of American Indian

UGUR AKINCI, PhD, *a Fortune 100 tech writer, is a past president of the STC Washington DC-Baltimore Chapter and an STC Associate Fellow. He is sharing free technical communication tips and tutorials since 2007 at* http://www.tcc6.com

Seth Mattison Announced as the Technical Communication Summit 2017 Opening Keynote Speaker

STC IS PLEASED TO ANNOUNCE Seth Mattison as the opening keynote speaker for the 2017 Summit! Mattison is a trend spotter, workforce strategist, and a management renegade speaker who is striving to make the world of work more humane, empowering, and engaging. His mantra, "We go ALL in," drives his mission to help facilitate a shift in consciousness around what work and leadership will mean in the 21st century, and the role individuals can play in intentionally creating careers and companies that bring deep value to the world.

Mattison believes there's never been a more important time than right now for a conversation about who we are and where we're going as we charge headlong into this new world of work. "For the past decade, we've looked at what I believe to be some of the most important trends to impact how we build relationships both in the workplace as well as in the marketplace, how we lead our teams, how we connect with our colleagues, and how we will ultimately position our organizations to win in the new world of work. We look forward to sharing these insights with you."

As a workforce strategist and an innovative speaker, Mattison has gained the edge and achieved great results, and looks forward to speaking at the 2017 STC Summit at the Gaylord National Resort.

Seth Mattison's keynote takes place on Sunday evening, 7 May, at the Gaylord National Resort, followed by the Welcome Reception. For more information and to register, visit *summit.stc.org.*

Changing the Game: Using Multimodal Assignments to Motivate Students

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BY THOMAS BARKER | *STC Fellow* and **CHRISTINA GRANT** | *Guest Columnist*

OFTEN INSTRUCTORS in classes that have a diversity of students face the challenge of motivating them. How can a communication instructor find a common ground that changes the game for all students? When culture is a huge factor in motivating students, just assigning a paper might just get blank stares. But when an instructor can tap into the students' shared experiences, particularly in the area of media, those blank stares can morph into expressions of surprise, and then determination.

In this column, I would like to explore how my colleague Christina Grant at the University of Alberta approached the challenge of motivating students in a diverse class setting. In Christina's Writing Studies 101 Exploring Writing course, the students had just exited the university's "Bridging Program." Bridging Program students have overall lower English writing skills, and their communication skills in English are 20 to 30 percent lower than native English-speaking students. These students come from health studies, cultural studies, business and economics, and all from multilingual backgrounds. As such it's hard to fire them up about communicating in English. Christina, after puzzling with these challenges, came up with an assignment that seemed to both evoke and help their voices shine.

Christina's approach changed the game for these students and, at the same time took an unconventional approach that could benefit other communication instructors. The *multimodal* approach to writing gave the students the chance to tap into their shared excitement over media-based communication and merge it with their learning. That excitement fuelled their work in creating media communications.

First, we will look at what we mean by *multimodal* as a media for student and professional writing. Then we will explore how Grant structured her assignment and presented it to her students. We will look at some of the benefits that she and her students realized once they had created and presented their work. Finally, we will touch on some tips and practices that other instructors can use to change the game in their diverse classroom settings.

What Is Multimodal?

On a simple level, *multimodal* is a method of communicating that uses using multiple modes or media channels. From a sensory perspective, multimodal can refer to using sight, sound, and motion all in the same communication. As Grant describes it, multimodal can be any kind of sound, any kind of image, or any kind of text. The key word here is *any*, which may be what most appealed to the students. These students, while they may have a diversity of language skills, already possess what Professors Gunter Kress and Carey Jewitt at the University of London call "multimodal literacy."

In a nutshell, multimodal literacy "focuses on the design of discourse by investigating the contributions

This column focuses on a broad range of practical academic issues from teaching and training to professional concerns, research, and technologies of interest to teachers, students, and researchers. Please send comments and suggestions to column editor Thomas Barker at *ttbarker@ualberta.ca.*

of specific semiotic resources, (e.g. language, gesture, images) co-deployed across various modalities (e.g. visual, aural, somatic), as well as their interaction and integration in constructing a coherent multimodal text (such as advertisements, posters, news report, websites, films)." This understanding of communication is a game changer for Grant's students because, for them, it allowed them to overcome whatever inhibitions they have about textual communication. It legitimized their fascination with modes of communication (sound and images) and turned their diversity, in all senses, into a multimodal asset. But how can these ideas shape communication assignments?

The Assignment

For Grant, the assignment had to accomplish a simple goal: to replace a 1200-word, standard written paper that draws from at least 3 academic sources. Here is what the students saw: "Your assignment is to take something important that you learned from the course and share it with students who are struggling to write." So they understand the learning zone: it focuses on where the students themselves were when the course started. Here's the game changer: The project must be four to seven minutes long and use whatever mode or combination of modes the student want.

For some students the solution was fairly standard: a brochure on writing. But for most the assignment opened them up to the world of video, sound and sound sampling, animation, cartoons, and Prezi, imovies, slides, and videos.

To prepare the students, Grant took them to the Technologies in Education Lab at the University of Alberta. The ET lab location, a version of which which can be found on most campuses, exists to help instructors and student use a variety of modes—visual, text, sound—to shape and convey ideas. "They really helped me out," says Grant. "I couldn't have done it without them." At the lab, where Grant held some classes, students were exposed to high tech tools such as cameras, microphones, recording instruments, big screens, and a willing staff to help them get started and complete their work.

Grant's other collaborator was Don Mason, Director of the English Language Program, in the Faculty of Extension, who volunteered to share the "winning" presentations with the over 300 students in his Program. In this way, says Grant, the communication instructor can bridge the silos that are so pervasive in the University and collaborate with instructors who also face challenges of diversity. Mason's program and students provided the potential audience for the students' videos. This potential audience gave the students a professional and useful target. As Grant puts it, the standards of acceptability based on a real audience, lent authenticity to the pride that students felt in their work.

The Result

Students worked individually or in pairs to create their multimodal projects. Most of the projects were movies—interviews, students talking about writing, or skits about writing. Others used a program called GoAnimate to create their projects and dramatize the challenges they faced. It wasn't all just free-form. Grant made it clear to the students that the scripted narration needed to be in standard written English. This, she explains, was one of the strengths of the assignment. These students leapt at the chance to show off their language skills in a format and medium that excited them. Instead of feeling exposed, vulnerable, at risk, and embarrassed, these students took pride their presentations. They were excited and shared their work eagerly. They all wanted to share their work.

Other advantages that Grant saw in the projects had to do with the novelty of the students' work, and the degree of play and creativity that they showed. But more than that, the students were given a choice of media and allowed to chose one that facilitated their voice. Even more, the project was authentic in that it had the potential to be shared with other learners. In doing so it pushed the boundaries—changed the game—for the students. And the principles that Grant uncovered in the project can also change the game for instructors.

Using Multimodal Assignments

These assignments were not without challenges. For the instructor, there is always an unknown when structuring and marking the work. How could they be evaluated fairly when many different products convey the same ideas. How can the instructor let go of control over the assignment and really give students free rein? To help sort out the marking, Grant used a rubric that focused on communication, thinking, knowledge and understanding and language. And further, she collaborated with an outside evaluator to provide feedback, which helped shape the holistic approach.

From the student perspective, they students faced the substantial challenge of learning the new technology in addition to finding their subject, limiting their scope, and shaping their message. But beyond this, they had to think modally: how does a message mean something different when you speak it, draw it, or dramatize it. Shaping messages to specific audiences—in this case naive learners in English—meant that the students had to invest in their result. "They cared about their projects," says Grant. That's a game changer for her and something she had not seen in her years of teaching before.

And for some, multimodal assignments—assignments that fall somewhat short of standards for word count for standard English—don't look like traditional assignments. And for program administrators charged with making sure incoming students meet levels of proficiency, the instructor can face a challenge of overcoming implicit biases in favor of traditional writing forms. So instructors need to be ready to

justify the approach when faced with the inevitable comments like, "The students aren't writing enough!" The compromise, says Grant, is in the enthusiasm that students generate. The word count will come, she suggests, once students get to a plateau of literacy in communication. And, in fact, the students wrote more words—in proposals, review comments, and other forms—than they might do in a traditional "essay-based" course.

Tips for Instructors

For instructors thinking about taking the risks inherent in multimodal assignments, Grant has a few well-earned bits of advice.

- Adequate preparation. Be clear about the goals of the assignment, including academic rigor, and purposeful and correct messages. The goal of reaching a real audience helps shape the students' efforts.
- Teach and schedule the process. Multimodal projects need to follow steps: content first, testing of ideas, learning the technology, producing the product, editing and revising, and presenting. "It's a messy process," says Grant, "but it works." She built in two proposals and storyboards to help them proof their ideas first. The process also used feedback of their peers to help maintain the focus of the course on communication.
- Control the technology. Students will produce a weak product, says Grant, if they immerse themselves in the technology before they have a viable message and plan. That said, it's important to have technological support for their work, as in tutors and lab assistants.

In classes that pose challenges in language skills, cultural adaptation, and time constraints, the multimodal approach can help. In these classes, as we have seen, students need to build their sense that they have something to say and a way to say it. Teachers get to work with delighted students and evaluated delightful results. Says Grant, "By the end of the class the students are laughing and clapping for each other. Suddenly their voices are public." That's a game changer.

REFERENCES

What is Multimodal Literacy? *https://multimodalstudies.wordpress.com/what-is-multimodal-literacy/*

New York Film Academy: Student Resources. This website contains a list of free software students can use for video and animation. *https://www.nyfa.edu/student-resources/best-free-open-source-animation-software/*

"I GOT A PROJECT THAT TURNED INTO A $25,000-A-YEAR GIG THANKS TO THE STC SUMMIT!"

"I spoke up in a session at a past Summit and was approached afterward by a man who was scouting for editors. He lived only about 50 miles from me, but I probably would never have met him otherwise. This encounter evolved into a $25,000-a-year gig of interesting editing with a small firm that pays well and on time, and even holds dinners for its contractors twice a year. I always knew that I had to show up to make connections and attending the Summit proved it!"

Bette Frick

MY NAME IS BETTE FRICK AND I'M AN STC MEMBER

http://summit.stc.org

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Organization Events Across the Globe

F.Y.I. lists information about nonprofit ventures only. Please send information to *intercom@stc.org.*

1 23-26 Jan
The **Annual Reliability and Maintainability Symposium** will be held 23-26 January 2017 at the Rosen Plaza Hotel in Orlando, FL.
RAMS
http://www.rams.org/
RAMS2017@rams.org

2 16-20 Feb
The 2017 **American Association for the Advancement of Science** (AAAS) annual meeting will be held 16-20 February 2017 at the Hynes Convention Center in Boston, MA.
AAAS
http://meetings.aaas.org/
meetings@aaas.org

3 16 Mar
The **Association of Teachers of Technical Writing** (ATTW) will celebrate its 20th anniversary at its 2017 annual conference, 15 May in Portland, OR, at the Doubletree by Hilton Portland.
ATTW
http://attw.org/conference

4 22-26 Mar
The **Association for Information Science and Technology** (ASIS&T) will host the annual Information Architecture (IA) Summit 22-26 March 2017 at the Hyatt Regency Vancouver in Vancouver, BC, Canada.
ASIS&T
http://www.iasummit.org/

5 26-28 Mar
The Annual **Spectrum STC Rochester Conference** will be held 26-28 March, 2017.
STC Rochester
http://stc-rochester.org/spectrum/
spectrum@stc-rochester.org

6 31 Mar–1 Apr
The Annual **Conduit STC-Philadelphia Metro Chapter Mid-Atlantic TechComm Conference** will be held 31 March through 1 April in Philadelphia.
STC-PMC
http://www.stcpmc.org/conferences/conduit-2017

7 7-10 May
The **Society for Technical Communication** will host its 64th Annual Summit at the Gaylord National Resort, just outside Washington, DC. For more information, please contact:
STC
+1 (703) 522-4114
http://summit.stc.org

* STC-related event

Creating Reflective Spaces for Your Writing

BY MALIHA BALALA | *STC Member*

WHAT DO YOU DO when you are in a writing rut? How do you approach the "same old documentation" with a fresh approach and a clear eye? I find it helpful to create outlets, reflective spaces where I can tune in and bring that renewed energy into my professional writing life. For the past two years, Bikram yoga has provided one such transformative space for me. Bikram Choudhury devised an intense high cardio and powerful yoga. And as if the postures are not hard enough, he cranks up the heat in his studios and has you melting into a sweat puddle by the time the class is over. I enjoy the way a 90-minute session can completely reset me emotionally, physically, spiritually, and mentally.

What does all this have to do with writing? Whether you are looking to explore better mind-body connection or flex your writing muscles, here are 7 ways the practice of Bikram yoga and the writing process resonate with each other:

1. **Everyone can do it:** In spite of the touted benefits of yoga, a lot of people have a misconception that it's not for them. Add the heat and the intensity of Bikram yoga and I get a polite but firm "No thanks!" The reality is that Bikram yoga is healing for all body types. The key is to give yourself permission to get out of your comfort zone.

   Similarly, a majority of people categorically claim "Writing is not for me" or variations of "I am not a writer" or "I am not good at expressing myself." Again, the act of committing words to paper begins with allowing yourself to open up.

   For technical communicators this could mean challenging yourself to write beyond technical content and explore more personal and creative pieces. Finding and experimenting with your inner voice will breathe new life into your professional work.
2. **They both have a form:** I began with the premise everyone can do it. The caveat is that both writing and yoga have a specific form. With practice, you will eventually earn a level of fluidity in your postures (asanas). The same goes with writing, as a craft the more you practice the easier it is to flow.
3. **Embrace "better" over "perfect":** There's no such thing as perfect writing or a perfect asana. The goal is not perfection, but to incrementally improve both your writing and asanas as you practice and become more comfortable in your skin and skills.
4. **Not for the faint of heart:** Some days, I stare at the screen in despair. Some days, my body feels like its resisting every single asana. The yoga feels tedious and hard as I will myself to bend and flex. The key is to keep showing up, for those other days, when your writing hums along and your body twists like a perfect pretzel, and the world is right again.
5. **Take breaks:** The secret to having a good practice in yoga, is to fully be present during the built-in breaks. Stand still with your breath and resist the urge to fidget or guzzle water. The same goes with your writing. Take a break, refresh, come back, and review with a fresh set of eyes.
6. **Cultivating stillness:** Both good writing and good yoga benefit from cultivating inner stillness. Set aside time every single day to shut down the noises around you, and embrace mindfulness. You will renew your energy, focus, and posture in all you do.
7. **The importance of mirrors and feedback:** In Bikram yoga, you are facing the mirror for the most part and teachers routinely remind you that you are your own best teacher. That said, the teachers will also give you good tips and feedback on how you can improve. For writing, it is equally important to solicit feedback and reviews from other writers or co-workers.

Integrating any type of mindful movement will help to clear your head and approach the challenges of technical communication in novel ways. Explore what works best for you, and if by chance your interest is piqued by this article, check out a Bikram studio near you!

MALIHA BALALA *works at WhirlWind Technologies, LLC as the Center of Excellence Manager. She also an avid Bikram Yoga fan. Have some thoughts you'd like to share? Feel free to email her at* maliha.balala@gmail.com

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STC Annual Membership (any membership type for Foundation certificants)	2
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STC Live Educational Webinar (free, sponsored, and community webinars excluded)	2
STC Online Courses	6
STC Summit Pre-Conference Courses (full day)	6
STC Summit Pre-Conference Courses (half day)	3
STC Virtual Summit	4
STC Annual Summit	8
Begin and complete a college-accredited course related to the Technical Communication field	8
Published articles that relate to any aspect of Technical Communication (2/article)	2
Published books publicly available on topics related to Technical Communication (5/book)	5
Presentations at conferences related to aspects of Technical Communication (2/presentation)	2
Total needed within 2 years post-certification date	**12**

Fees

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